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PROCEEDINGS

OF THE

NEW YORK

PATHOLOGICAL SOCIETY

FOR THE YEAR 1891

ORGANIZED IN 1844 INCORPORATED IN 1886

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PRINTED FOR THE SOCIETY,
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The Knickerbocker Press, New York
G. P. Putnam's Sons
27 and 29 West Twenty-third Street

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PROCEEDINGS

OF THE

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, January 28, 1891.

DR. H. M. BIGGS, PRESIDENT, IN THE CHAIR.

PERNICIOUS ANÆMIA IN A CHILD TWO YEARS OF AGE.

DR. L. EMMET HOLT presented specimens from such a case, accompanied by the following history: The child was twenty-five months of age, and had been under observation at the Babies' Hospital for the last three months of its life. It had previously lived in a malarial district, but without any distinct malarial attacks. It was admitted for a severe ulcerative stomatitis and anæmia. It had had several attacks of bronchitis, and one attack of broncho-pneumonia in infancy.

On admission the child's general condition was poor; the spleen was enlarged, being at that time one and a half inch below the border of the ribs; the liver one and a half inch below the free border of the ribs, and its border normal by percussion. There was no fluid in the abdominal cavity, but the abdomen was large. There was no enlargement of the superficial lymphatic glands. The child improved steadily under treatment for six weeks, and at the end of this time the mouth was almost well, she had gained in weight, and the anæmia was less marked. For the last six weeks the course of the case had been slowly but steadily downward—increasing anæmia, occasional hemorrhages from the nose, and exacerbations in the stomatitis, the latter finally extending until it involved the alveolar spaces and caused the loss of two or three teeth, and finally a sequestrum, three fourths of an inch long, was removed from the jaw. Two weeks before that the spleen had enlarged so that it reached four inches below the ribs, and its internal border was one and a half inch to the left of the umbilicus, and in the axillary line half an inch above the crest of the ileum. Its inner border was enlarged, so that it reached two inches below the border of the ribs in the mammary line, and two and a half inches in the median line, and presented a smooth outline. There was no jaundice ; there was no fluid in the abdominal cavity, and the anæmia at this time was extreme. A loud hæmic murmur was heard at the base of the heart, and small, punctate hemorrhages were present over the abdomen and extremities. Examination of the blood showed a marked increase in the white corpuscles, but not enough to warrant a diagnosis of leucocythemia—the proportion was probably not above one to fifty. The red globules were irregular in size and shape, and no pigment was observed. For the last two weeks a marked febrile movement was present, the temperature ranging from 99 ° F. to 103 ° F. Quinine was given in large doses, but had very little effect upon the temperature. The size of the spleen was slightly reduced under the influence of the quinine. There was no jaundice at any time, no emaciation, but diarrhœa was present at short intervals during the whole illness, but it was never continuous. There were no hemorrhages from the intestine at any time, and the urine contained albumen only for the last two days, and no blood was found under the microscope. There were no large hemorrhages, either subcutaneous or from the mucous membranes. During the last four or five days of life signs of broncho-pneumonia developed. There were no cerebral symptoms. There was slight œdema of the feet noticed during the last week only.

At the autopsy, which was made nine hours after death, the brain was negative. The skull was thickened and very vascular, and there was a pachymeningitis interna over the whole convexity. the pseudo-membrane being half a line in thickness. Minute hemorrhages were found scattered pretty thoroughly in this membrane. The sinuses contained soft, dark clots. The lungs were both slightly adherent at their upper portions, and there were evidences of recent broncho-pneumonia in both lungs posteriorly, and of old pneumonia in the right. There was no fluid in the pleural cavity. Sub-plural ecchymoses were seen everywhere. There were small ecchymoses over the visceral pericardium, but none over the parietal layer. The heart was very pale, and extremely fatty, the striations of fatty degeneration showing typically in the papillary muscles. There were no valvular lesions. The spleen was six inches long, three and a half inches wide, and one and a half inch thick in the thickest part, and weighed five and one fourth ounces. There were adhesions to the abdominal wall, due to a moderate perisplenitis ; the inner border was notched, the organ firm, and a little darker than normal, and the gross appearance presented nothing positively diagnostic. The liver was about one and a half times the normal size, pale, and anæmic ; fatty degeneration in the centres of the lobules, and fine grayish striæ at their periphery. The gross appearance was strongly like that of a pig's liver. The organ was not jaundiced. There was no fluid found in the abdominal cavity. The stomach contained a quantity of brownish mucus, and there were a few small ecchymotic spots in the mucous membrane, but evidences visible to the naked eye of acute or chronic gastritis. The upper part of the ileum was moderately congested, but Peyer's patches were not swollen. The colon was normal. The mesenteric glands were slightly enlarged, but not cheesy. The pancreas was normal. The kidneys were slightly enlarged and pale ; the markings were only fairly distinct, and there was marked cloudy swelling of their cortices.

Microscopical Examination.—The heart showed well-marked fatty degeneration, and, in addition, there are scattered about between the muscle-fibres small collections of small spheroidal cells. It was not determined whether the cells were contained in a connective-tissue reticulum or not. The liver showed moderate cirrhosis. The connective tissue was especially cellular, and newly formed gall-ducts, as so often occurs in cirrhosis, could be detected. Scattered about, usually between the lobules, were collections of spheroidal cells, presumably hyperplastic lymph nodules of Arnold. The spleen showed a combination of the lesions of congestion with interstitial splenitis. The kidneys showed well-marked parenchymatous degeneration, with proliferation of the endothelium lining the tufts of the glomeruli.

HYPERTROPHIC CIRRHOSIS OF THE LIVER.

DR. J. S. THACHER said that he had recently seen at St. Luke's Hospital a case diagnosticated as hypertrophic cirrhosis of the liver, and a perusal of the cases collected by Dr. Howard, in the "Transactions of the Association of American Physicians for 1887," and of the more recent contribution of Dr. Edwards, in the "Archives of Pediatrics," made it evident that this condition was much more common in children than was generally supposed. There had been a number of such cases reported to the Calcutta Medical Society, in which there was moderate jaundice, little or no ascites, a large, dense liver, and a greatly enlarged spleen. In one case, in which a post-mortem examination was made, hypertrophic cirrhosis was found, but without the fatty degeneration which is usually a marked feature.

As to the causation of this condition, Italian physicians firmly believed that it was of malarial origin. In the Calcutta cases it was noted that it was not nearly so frequent among children living in the country as in those dwelling in Calcutta.

Dr. Thacher then presented sections from a tumor which had been removed from near the shoulder of a young woman. The tumor was intimately adherent to the upper part of the right clavicle, and the mass which had been sent to him for examination was irregular, and about half the size of the fist. He would like to hear the opinions of the members as to its nature.

Several of those present considered it an adenoma.

TUBERCULOSIS OF THE PROSTATE AND SEMINAL VESICLES.

Dr. H. M. Biggs presented a specimen of tuberculosis in which the only lesions in the body were confined to the genital organs. The testicles were tuberculous, and the seminal vesicles extensively involved, while the prostate was converted into a cheesy mass. The bladder was anæmic, apparently as a result of the obstructed circulation due to the prostatic enlargement. The patient, who was a man about sixty years of age, died of acute lobar pneumonia.

The specimen was interesting as a further contribution to the subject of the localization of tuberculous processes, and emphasized what he had said on other occasions about the occurrence of primary tuberculosis in almost any organ of the body. Last November he had presented to the Society a specimen illustrating a tuberculous process limited to the suprarenal capsule, and during the last two years various similar specimens had been presented.

Stated Meeting, February 11, 1891.

DR. H. M. BIGGS, PRESIDENT, IN THE CHAIR.

REPORT OF A CASE OF GENERAL TUBERCULOSIS, TREATED WITH KOCH'S LYMPH, WITH AUTOPSY.

DR. H. P. LOOMIS presented such a report.

Martin D——, aged thirty-eight, married, wiremaker, was admitted into Bellevue Hospital on November 23, 1890, with rapidly advancing pulmonary tuberculosis. As he was steadily losing ground, it was decided to try the effects of small injections of Koch's "lymph," especially as the patient and his family begged for the treatment. The patient gave no family history of tubercular disease. With the exception of one attack of acute rheumatism, and an occasional bronchitis, from which he always made a rapid and complete recovery, he had been strong and vigorous until six weeks before admission, when his present illness began, with a slight cough. His cough gradually grew worse, and was accompanied by loss of flesh and strength, and dyspnœa, that became so urgent, and loss of strength so great, that he was obliged to give up work and come to the hospital. On December 23, 1890, he received his first injection of lymph, at which time a physical examination of his lungs showed diminished expansion and well-marked dulness at both apexes, most extensive on the left side. Large and small râles were heard in the intra-clavicular regions on both sides. Behind, in the left scapular region, there was tubular breathing, with large and fine crackling râles ; in the right, fine crackling râles with crepitating friction-sounds. The patient weighed 142½ pounds. The amount of sputum per diem was one ounce, and from forty to forty-five tubercle bacilli were found to the field. The patient was daily injected with .00025 milligr. of the "original" fluid. After a week's treatment his condition was so much improved that he was able to be up and about the ward—his fever had decreased, and his night-sweats disappeared, and his dyspnœa was but slight. The patient remained in this condition for about ten days, the disease being apparently arrested, although no improvement in the physical signs could be detected.

On January 20th he began to expectorate blood, his temperature ranged from 102° to 104° F., his pulse became feeble and rapid. A microscopical examination of his sputum showed that the tubercle bacilli had increased from forty to fifty to the field. A loss of 6½ pounds since treatment began was noted, and a physical examination showed diffused infiltration of both lungs, with softening and excavation at the left apex.

The lymph injections were at once stopped, but the patient grew rapidly worse, and died on January 29th.

Autopsy, fourteen hours after death. *Brain:* There was intense congestion of the vessels of the cortex, with a moderate serous exudation into the meshes of the pia mater, which showed in places an opacity. There were areas of intense hyperæmia in the brain, most marked at the cortex. A number of small, gray miliary tubercles were found along the fissure of Sylvius, on both sides. Especially was this noticed on the left side, where the pia mater was studded with small tubercular granulations for the space of an inch and a half. On no other portion of the brain were tubercles noted. *Heart:* Normal in appearance, weight 11 ounces, atheromatous patches occupied the first portion of the aorta. *Lungs:* The upper portion of the left lung was bound to the chest-wall by old adhesions. No adhesions were found on the right side. An old cavity, 5 ctm. in diameter was situated at the apex of the left lung. It was surrounded by a fibrinous capsule one eighth of an inch in thickness. The walls of the cavity were tuberculated, intensely congested, and covered with dark reddish-brown granulations. The cavity contained blood-stained necrotic-looking masses of cheesy tubercular material. There had been a hemorrhage into the cavity. Both lungs were studded throughout their entire extent with gray, translucent tubercles the size of a pin's head; no normal pulmonary tissue could be found. Microscopical examination of the lung parenchyma showed the characteristic appearance of recent miliary tubercles, containing giant-cells in large numbers. Most of the alveoli between the tubercles were free of epithelial cells, but the capillaries in their walls were congested. In a few places cheesy pneumonic spots were noted. A section, including the wall of the cavity, and the pulmonary tissue for three fourths of an inch beyond, showed, under the microscope, 1st, a very intense hyperæmia of all the vessels, both in the old connective tissue which lined the cavity, and in the walls of the adjoining cells. The hyperæmia was so great that in places hemorrhage had taken place; 2d, numerous areas of round-cell infiltration were noted: 3d, I saw nothing in or around the tubercles to indicate that a reparative process was being established. *Liver:* Weighed 4¾ pounds, was dense and of a dark mahogany color. A number of microscopical sections were made from different portions of the organ. Only a few contained miliary tubercles. The hepatic tissue showed a diffuse cirrhosis. *Spleen:* Normal size, soft, studded with miliary tubercles throughout its whole extent The tubercles had the appearance of being of recent development. *Kidneys:* Weight of each 9 ounces. The left kidney was normal. Its suprarenal capsule, however, was intensely congested, and in places small hemorrhages had occurred in its substance. The right kidney was normal, with the exception in one place of a wedge-shaped eruption of miliary tubercles an inch across, involving both the cortex and medullary part. The collection of tubercles was easily recognizable to the naked eye, and on microscopical examination were seen by their structure to be of very recent origin. *Intestines:* The small intestines contained ten tubercular ulcers—some just forming, others of older date, but none showing the late changes of an ulcerative tubercular process. The largest ulcer was an inch and a half in diameter. The retroperitoneal lymph nodes were enlarged, tubercular, and in places necrotic. *Stomach:* The mucous membrane of the stomach was intensely hyperæmic, and in places there were extensive submucous hemorrhages. No tubercles were found.

Remarks on the Case.—The interest in this case hinges on the questions: Were tubercle present in the various organs before the injections were begun, or did they occur in the natural course of the disease, or were they produced by the lymph? The patient received in all twenty-four injections, as follows: fourteen of .00025 c c., and ten of .0005 c.c.

Although the case was considered almost a hopeless one when the treatment was begun, at no time was it suspected that tubercular disease had extended beyond the lungs, for no symptoms of cerebral or intestinal tuberculosis were noted, even with a very careful daily examination of the patient by a number of observers. Most of the miliary tubercles found in the lungs were not of recent date. They had formed microscopical tubercular masses and contained necrotic centres. A microscopical examination of those found in the various organs showed a similarity in their stage of development. They were made up of giant-cells, well-marked epithelioid and lymphoid cells; they contained no cheesy centres, and, from their structure, must have been of very recent growth. The tubercular ulcers were confined to the small intestines, and occupied the sites of the solitary and agminated nodules. The appearance of the ulcers indicated that they were rapidly extending. The lymph nodes showed an unusual degree of swelling, and a hyperæmia which extended to the innermost part of the node, giving the appearance of nodes which are the seat of an acute irritation. The physical signs of a cavity in this case were not distinct at the time of commencing the injections, but at the time of stopping the injections they had become very apparent.

Koch, in his original article, claims that the lymph produces necrosis around tubercular areas. Although a large number of sections taken from various portions of the lungs in this case were examined, in none of them did I find evidence of such a process.

The President said that this report emphasized the fact that the lymph had no power to prevent the development of miliary tuberculosis, nor did it cause any degenerative changes in the tubercular deposits. Several cases had been observed, in which tubercular ulcers of the tongue developed in persons while undergoing the Koch treatment.

Dr. George C. Freeborn said that he was at present studying the results of an autopsy upon a case of epithelioma of the face, which had been treated by these injections. Death occurred about ten days after the last injection, with all the symptoms of intense pulmonary congestion, and the autopsy showed that the lungs were greatly congested, and, in addition, contained certain nodules, the exact nature of which he had not yet positively determined. The other organs of the body presented the intense hyperæmia to which allusion had been made in the paper.

A LARGE FIBRO-MYOMA.

Dr. Freeborn presented half of a uterus with a large fibromyoma, which had been removed by Dr. Chambers, at the Woman's Hospital, from a married woman, aged thirty-four, who had never had children. The duration of this trouble was four and a half years. The operation performed was supra-pubic hysterectomy, and on making the abdominal incision the bladder was found at the level of the umbilicus, and the ovaries attached to the inner side of the mass. The mass removed was flattened, oval, with an ovoid projection from its superior surface. It weighed in the fresh state 5,270 grm. The vertical circumference was 79 ctm., and the transverse 63 ctm. An antero-posterior section through this mass showed that the large fibro-myoma, measuring 19 x 20 ctm. transversely, sprung from the posterior wall of the uterus, and in the centre of this mass was an area of fibrocystic degeneration measuring 6 x 11 ctm. In what appeared to be the anterior wall of the uterus was a small myo-fibroma. The interesting feature in the case was the development of this large mass in the posterior wall of the uterus, which, in its rapid growth, has pushed up all the pelvic organs. The remaining one-third of the elongated vagina was plainly visible in the specimen.

CIRRHOSIS OF LIVER.

DR. EUGENE HODENPYL presented specimens from a case of cirrhosis of the liver, occurring in a young man, aged twenty-one, who had been intemperate for many years. He had suffered from dropsy, and had been tapped on several occasions. The autopsy showed a typical "hobnail" liver, with very advanced changes for one of his age. There was also the so-called "fleshy spleen," presenting evidences of chronic interstitial splenitis. The lungs had been somewhat compressed by the fluid in the abdominal cavity. The only evidences of tuberculosis in the body were some cheesy bronchial nodes, which, when stained, showed very few tubercle bacilli. The small intestine, from about the end of the duodenum to within about one foot of the ileo-cæcal valve, was intensely congested, and almost necrotic, due to a thrombosis of the portal vein, and branches of the superior mesenteric veins. He had noticed thrombi in this locality in several instances, but was unable to offer any explanation of it. In answer to a question from the President as to whether the thrombosis was probably recent, Dr. Hodenpyl said that there was nothing in the history pointing to intestinal trouble except an occasional diarrhœa, and he was of the opinion that this condition developed just before death, and was of no special significance. There were no hemorrhages into the bowel.

A CASE OF HEMORRHAGE INTO THE BRAIN.

DR. E. D. FISHER presented specimens from a man, aged forty-five, who had been admitted to the hospital as an alcoholic case, being at that time only partially unconscious, and having no paralysis, but on the contrary good muscular power. The pupils were at no time abnormal. He passed rapidly into profound coma, and died within twenty-four hours. At the autopsy, in addition to various contusions on the body and limbs, there were hemorrhages into the occipito-frontalis and left temporal muscles, with fissuring of both tables of the skull, from the occiput on both sides along the parietal region. The brain showed an extensive hemorrhage lying between the dura and the cortex, and a considerable contusion of the brain on the left side, involving the lower portion of the third frontal convolution, and the anterior portion of the temporal, with a portion of the parietal lobe in the region of the fissure of Sylvius.

The case was chiefly of interest as showing how little there was on which to base an accurate diagnosis, and hence the necessary uncertainty as to treatment. He thought the hemorrhage originated from the veins of the pia, and was not due to any injury to the middle meningeal artery, because the hemorrhage was entirely subdural.

PACHYMENINGITIS HÆMORRHAGICA.

Dr. Fisher also reported a case of this condition. This man had been brought to the hospital for intoxication, and his speech at that time, though thick, was not incoherent; on attempting to walk, he fell continually toward the left side. The pupils were equal. During the night he became unconscious, œdema of the lungs developed, and he died thirty-six hours after admission. There was no reason to suspect injury. Contrasting the symptoms presented in these two cases, one of marked contusion of the brain, and the other of simple compression, the similarity of the symptoms was remarkable, and even the condition of the pupils failed as an indication of cerebral compression.

In answer to a question as to the relation of the traumatism to the cause of death, Dr. Fisher said that he did not think there was ordinarily much connection between the two, for death occurred too soon after the injury to be due to suppuration or inflammation.

The President said that he had been much impressed with the frequency with which he had met with lesions in the under surface of the frontal and the temporo-sphenoidal lobes, which may have been due to the injuries received years before. This was just the locality where laceration and contusion almost invariably occur as a result of traumatism, and hence it was the amount of hemorrhage and not the contusion which determined death. The hemorrhage usually came from laceration of the vessels of the cortex.

Dr. W. P. Northrup exhibited a slide showing a transveser section of the dura in a case of chronic pachymeningitis hæmorrhagica interna.

CHRONIC EXTERNAL HYDROCEPHALUS.

Dr. Northrup said that, although he had seen many cases of ordinary chronic hydrocephalus, this was the first time he had met with the external form, although the text-books did not speak of it as rare. He exhibited a transverse section of the dura. At the time of his death, the child was ten months of age. It had been born after a normal labor, and when about five months of age, it was noticed to have a large head, and to keep the thumb turned into the palm. When admitted to the hospital, on August 25th, it was much emaciated, and the skin was leathery and wrinkled. The temperature was 98.5° F. In September the head began to enlarge very noticeably, the sutures were gaping, and the child grew stupid and fretful. At the autopsy, which was made by Dr. G. S. Lynde, about one pint of fluid of the color of Müller's fluid escaped on opening the skull, and there was a large quantity of old blood-clots over the entire dura, but mostly on the right side posteriorly. On stripping off a thin layer of tissue, the dura was left stained a yellowish color. The brain itself was normal, there being no distention or staining of the ventricles. The section shows pachymeningitis in the dura with the formation of new vessels, and a recent exudate of pus and fibrin. The fibrous layer of the dura was unchanged, and toward the free surface there was a narrow layer of old vessels with a new connective-tissue formation, which near the free margin became converted into a soft, pultaceous layer of pus and fibrin.

Dr. J. S. Thacher exhibited specimens, and reported the results of an autopsy upon a case which several surgeons, in consultation with a well-known neurologist, had diagnosticated as one of cortical inflammatory lesion of the right hemisphere of the brain. The patient was a girl, twelve years of age, who was undeveloped for her age. She had received some injury on the head on November 28th, and two weeks after this she began to suffer from left-side convulsions. At times there was a deviation of the optic axes to the left, and the left pupil was dilated. The temperature was very irregular, rising at times to 105° or 106° F. ; the pulse was sometimes very rapid ; the respiration was slow. The urine was examined once during life, with negative result ; but at the autopsy the urine which was in the bladder contained much albumen and casts. The patient was subjected to the operation of trephining, and died about one hour after the operation.

It was interesting to note that the line drawn upon the scalp before the operation to determine the position of the fissure of Rolando, exactly corresponded with this fissure. No lesion of the brain could be found except that made at the time of the operation. The drainage-tube had pierced the right hemisphere and the right ventricle, and reached about a quarter of an inch into its floor, piercing the caudate nucleus. The left ventricle of the heart was found hypertrophied. One kidney was small, irregular, and nodular, with patches looking like scar tissue ; the cortex was somewhat thickened, and the markings were pale and indistinct. The other kidney was enlarged, and presented otherwise much the same appearance. The uterus was extremely small for a child of that age.

Dr. Thacher said that he had met with three other similar autopsies, in which no brain lesion could be found. In one, diabetes was the only cause of death found ; in the second, there was possibly enough syphilitic disease of the blood-vessels to account for the cerebral symptoms ; and in the third, that of a pistol-shot wound over the right eye, in which the surgeon had trephined at the back of the skull without finding the bullet, the autopsy showed that the bullet was lodged under the orbital plate of the frontal bone, and not in the brain.

ATROPHY OF THE PYRAMIDAL TRACT.

Dr. Thacher also presented the brain from a man who had been run over and killed. The specimen showed atrophy of the pyramidal tract secondary to a lesion of the right hemisphere. There was apparently an old spot of softening involving the middle of the internal capsule, and the adjacent part of the lenticular nucleus. The degeneration of the pyramidal tract was seen very strikingly in the medulla and in the pons. There was another spot involving the anterior part of the lenticular nucleus. The patient had had, several years before, an attack of left hemiplegia, from which he recovered with the exception of some paresis of the left arm. This attack was explained by the lesion just noted

SOFTENING OF THE LENTICULAR NUCLEUS.

Dr. Thacher also presented a brain showing a small spot of softening in the outer layer and posterior part of the lenticular nucleus, from an old cyst, associated with very marked atrophy of the pyramidal tract on that side, and of the optic thalamus.

FATTY AREAS IN LIVER.

The President exhibited a liver containing certain pale areas, which by their gross appearance had at first led him to make an erroneous diagnosis. The patient was a negro, aged fifty-three, who at the time of his admission had marked emphysema, and soon afterward developed an irregular temperature ranging between 100° F. and 102° F. No cause could be found for this temperature, which continued for three or four months. There was a gradual accumulation of fluid in the abdominal cavity, and he died suddenly from cerebral hemorrhage. The autopsy showed extensive emphysema, lesions of the mitral and aortic valves, extensive endarteritis, and ascites, in addition to the diseased liver which he presented. This liver was considerably enlarged, and its surface indistinctly nodular. On section, numerous light areas, which showed distinctly through the capsule, were found scattered all through the liver, and projected above the cut surface. He had considered them small multiple secondary new-growths, until a careful search failed to reveal a primary tumor. Microscopical examination showed these areas to be not new-growths but liver tissue, surrounded by dilated vessels and extensive fatty change.

Dr. H. P. Loomis said that he had seen light areas around central veins which presented a very similar appearance. Dr. Prudden had examined them with him, and they had come to the conclusion that at some time previous there had been a passive congestion of the liver with over-distention of the capillaries, and that, after this cause had disappeared, the areas supplied by these vessels remained anæmic.

Stated Meeting, February 25, 1891.

Dr. H. M. Biggs, President in the Chair.

Dr. John H. Linsley said that, in view of the great interest taken in Koch's treatment of tuberculosis, he wished to refer to a letter he had just received from Professor Carl Fraenkel, who, as is well known, is intimately acquainted with Professor Koch. In this letter, which was written as an introduction to Dr. Linsley's translation of Fraenkel's book on bacteriology, Professor Fraenkel refuses to discuss the present status of this new treatment, on the ground that at the present time experiments were still in progress, and the success of the method seemed very doubtful.

SINGLE KIDNEY, WITH ACUTE INTERSTITIAL NEPHRITIS, AND COLLOID CARCINOMA IN THE BLADDER.

Dr. H. S. Stearns presented a report of such a case The subject of the report was a German shoemaker, fifty-two years of age, who was admitted to the Charity Hospital on January 9, 1891, with a history of considerable pain in the hypogastrium and right iliac region for five weeks, and of retention of urine for two days. The catheter evacuated considerable pus, but not much urine. On the following day the lungs became œdematous, and he died within twenty-four hours. At the autopsy, thirty-two hours after death, the lungs and heart were found normal, with the exception of the pulmonary œdema. The liver was slightly fatty. The only lesion of the intestines was an intense hyperæmia of the peritoneal surface of the cæcum, but no adhesions or anything abnormal were found on the internal surface. The cavity of the bladder was only 4 ctm. in diameter and was partly filled with pus. There were two polypoid masses, each about 1.5 ctm. in diameter, projecting into the viscus, which proved to be carcinoma with colloid degeneration. The wall of the bladder was greatly hypertrophied, and beneath the larger of the two malignant growths it had almost ulcerated through. The left kidney was absent. The right kidney was very large, weighing, with its capsule, 27 ounces. The capsule was 5 ctm. thick and was non-adherent. In stripping off this thick capsule, small abscesses were found between it and the kidney. Microscopical examination showed in the cortex round-cell infiltration about many of the glomeruli and convoluted tubes. Round cells were seen thickly packed in a few tubules. Degeneration of the epithelium was almost universal. Here and there were seen areas of colloid degeneration, but nothing that could be positively asserted to be carcinomatous. As regards the elements of the cortex, the glomeruli and tubules seemed somewhat larger than where both kidneys were present. The pelvis of the kidney showed no evidence of inflammation. The ureter was quite large, but otherwise apparently normal.

The President remarked that cases of colloid cancer of the bladder must be very rare, as in a somewhat extended search which he had recently made into the literature he did not recall a single recorded case.

SARCOMA OF THE KNEE.

Dr. R H. **Sayre** presented a specimen which had been removed a few days before by amputation of the thigh. The history dated back three years, and began with pains in various joints, occurring shortly after the patient's confinement. One year later, after falling down stairs, there was an acute inflammation of the knee, which was thought by the attending physician to be an ordinary synovitis. The case was treated by massage, but was not improved. About sixteen months ago, the speaker's brother had seen the patient, and had found a knee-joint which resembled that ordinarily seen in simple tubercular disease, except that there was more swelling of the lower end of the femur. An extension splint gave much relief, and the size of the knee was reduced two inches by strapping. The case had been under the care of the speaker for about a year, during which time it had been treated by extension and immobilization. There had been a morning temperature of 99° F., and an evening one of 100° F., and the patient had had occasional chills. There was supposed to be extensive bone disease, and an operation was advised, but not insisted upon, as the long duration, the irregular temperature, the general condition of the patient, as well as the local appearances, did not point toward malignant trouble. After making the flaps for an amputation, the limb suddenly dropped off, and it was found that the shaft of the femur was very extensively diseased, and the joint was filled with a giant-cell sarcoma The inguinal nodes were slightly enlarged, but no other secondary nodules were found, and nothing to indicate such deposits in the internal organs. The history was rather indefinite as to the exact point at which the trouble began, but it probably began as an active inflammation in the tibia.

Dr. H. J. Boldt asked if it were not probable that the disease was benign at the beginning, but subsequently became malignant as a result of the long-continued irritation.

The President said that sarcomata of bone most frequently began in the upper end of the tibia, and next in frequency in the femur. The specimen showed a very typical giant-cell sarcoma, and from its appearance he thought it had probably begun in the tibia.

A REMARKABLE CASE OF SLOW GANGRENE.

Dr. Eugene Hodenpyl presented specimens from a case which had, for upward of twenty years, puzzled and interested a number of physicians. When about forty-five years of age, and apparently in good health, gangrene developed in one big toe, which was amputated. Following this, gangrene successively attacked the other toes, and then the lower extremities, so that in all, about twenty amputations were performed. A very careful investigation by the physicians failed to elicit any history or evidence of syphilis, diabetes, or similar disorders. In January of 1890, the end of the penis becoming gangrenous, amputation was performed. He remained in good health up to five days ago, when he was seized with vomiting, and then with an ill-defined pain in the epigastrium, which gradually extended over the abdomen. On admission to the hospital at this time the temperature was found to be normal, and no other symptoms were present for several days, when he suddenly went into collapse and died. At the autopsy, on opening the abdomen, it was found filled with blood. The lungs showed the pneumonia of heart disease. The heart was found to be somewhat enlarged, and the cavity of the left ventricle was dilated and its walls hypertrophied ; there was also some thickening of the myocardium and of the aortic and mitral valves. The first part of the aorta was nearly normal, but at the arch were several soft atheromatous spots, and at the commencement of the descending aorta was a large nodule. The atheroma extended down the aorta to just above the origin of the common iliacs, where numerous large and small ulcerations were found. This portion of the aorta was very soft and spongy, and it was evident that the hemorrhage took place here, for the subjacent tissues were infiltrated with blood. The spleen, which was very firmly adherent to the surrounding tissues, weighed one and three quarter pounds. It was very hard, irregularly, and coarsely nodular, and on section showed several very large, characteristic gummy masses. In fact, nearly the whole spleen was converted into gummata. The kidneys showed the ordinary lesions of chronic diffuse nephritis, and explained the condition of the heart. The liver, stomach, and intestines were normal. Permission could not be obtained to examine the brain. The gangrene was evidently due to thrombi in the aorta.

Microscopical Examination.—Sections through the spleen showed that the gummata were converted largely into dense, almost structureless, cheesy material. The cheesy areas were surrounded by a zone of small spheroidal cells, which were in turn enclosed by dense fibrous tissue. There was extreme atrophy of the remaining spleen pulp. Sections through the wall of the aorta showed the ordinary appearances of atheroma in various stages. At the lower end of the aorta, where the rupture is supposed to have taken place, the ulcers were large, numerous, and often deep, extending in places almost through the wall of the artery. The tissue surrounding the ulcers was infiltrated with small spheroidal cells, and seemed to be partially broken down.

Dr. E. Fisher referred to a very similar case which had come under his observation, in which the gangrene involved first one foot and then the other, becoming symmetrical. The disease extended beyond the limits found in Reynaud's disease, and finally necessitated amputation of the knee. No reason could be found for this condition during life, but the autopsy revealed a very similar state of affairs to that which had just been described.

ULCER OF THE DUODENUM.

The President presented specimens of this rather rare condition. They had been removed from a woman, who could give no previous history except that she had some chilly sensations and obstinate vomiting with abdominal pain for some time previous to her admission to the hospital, which was on January 19th. At that time she was stupid and deeply jaundiced. The temperature was irregular, reaching at times 104.5° F., but ranging most of the time between 101° and 102°. Severe vomiting occurred at intervals. She remained stupid for the most part, but occasionally became delirious. She complained of pain on the right side near the free border of the ribs, and an examination of this situation showed the presence of a hard tumor. Two diagnoses were made, viz., one of gall-stones, the other of carcinoma of the stomach, or of the gall-bladder and duct. Death occurred from asthenia.

At the autopsy, the lungs, heart, and all the organs except the duodenum and liver were bile-stained, but otherwise normal. In the descending portion of the duodenum, and involving almost its entire circumference, was a large ulcer with elevated and indurated borders, situated just beneath the papilla marking the termination of the gall-duct. The gall-bladder was much dilated, and on pressure this papilla became swollen and elevated, and thin bile passed through. The tumor was due to dilatation and thickening of the gall-duct. The liver was very intensely bile-stained and somewhat fatty.

Apparently in the early stages this ulcer had almost completely occluded the bile-duct, giving rise to obstructive jaundice and dilatation of the gall-duct, but later on the duct had again become pervious. These cases of ulcer of the duodenum were not common and the clinical history was always obscure. In some instances there were scarcely any symptoms, and he had never known of the diagnosis of ulceration of the duodenum which had been confirmed by autopsy. He had seen a case of sudden death in a sailor who was apparently in perfect health, yet the autopsy revealed peritonitis from perforation of the duodenum at the site of an old ulcer.

Stated Meeting, March 11, 1891.

DR. H. M. BIGGS, PRESIDENT, IN THE CHAIR.

ECTOPION PREGNANCY.

DR. H. J. BOLDT presented two specimens of this condition, in one of which the embryo was shown *in situ.* In the first case the patient was thirty-three years of age, and had had one child and one miscarriage. In January, 1885, she was treated for endometritis and catarrhal salpingitis. On November 9, 1890, four weeks and two days after the last menstrual period, she became unwell, and suffered from cramp-like pains. The flow continued pretty constantly up to January 17, 1891, when she again came under the speaker's care. At that time she was suffering intense pain in the right ovarian and lumbar regions, and the discharge from the uterus was thick, of a dark chocolate color, and had a disagreeable odor. The uterus was slightly enlarged and softened, and a little to the left of the median line. To the right was an enlarged and sensitive Fallopian tube; the left tube was normal. She was sent to the operation-room, but at the time of the operation she was almost pulseless and exsanguinated, and no tumor could be felt. It was supposed that the tube had ruptured, and on opening the abdomen this opinion was confirmed, as the abdomen was filled with blood. The bleeding tube was tied off, and the abdominal cavity cleansed with hot water and closed. Recovery was uninterrupted.

The second specimen, containing the embryo, was removed from a woman thirty-three years of age. She had had an abortion two years before, and three children, the last one ten years previously. About one year before she had suffered from uterine hemorrhage due to a fungus endometritis, which was cured by curetting. She had had also a salpingo-oöphoritis on the left side. From November 29, 1890, to January 25, 1891, she had increasing pain in the left ovarian region, and on the latter date there was a profuse hemorrhage. She was seen in consultation on February 7th, and the uterus was found to be pushed upward and forward and somewhat to the right by a tumor which was connected to the left of the uterus. The patient was exsanguinated, the pulse was 140, and very feeble, and she suffered much from periodical cramps in the region of the tumor. A diagnosis of ruptured tubal pregnancy was made, and before the operation, on the following day, there were symptoms indicating an additional intra-peritoneal hemorrhage. She also made an uneventful recovery.

Ordinarily, a case presenting the signs and symptoms detailed in the foregoing histories would lead one very readily to make a diagnosis of tubal pregnancy, and if the symptoms point to a probable intra-peritoneal hemorrhage an operation should be promptly performed. Where such hemorrhage is quite profuse the speaker thought it was advantageous to leave a large quantity of physiological saline solution in the abdomen, and to close the abdomen. In speaking of the prominent symptoms he had purposely refrained from referring to the passing of a decidua, for in his experience, this so-called deciding symptom had been conspicuously absent. It was also interesting to note that in all the cases which he had seen there was a history of catarrhal salpingitis, thus rendering it probable that tubal pregnancy does not occur in cases where the tubes are normal.

INTRA-MURAL MYO-FIBROMA.

Dr. Boldt also presented a large intra-mural myo-fibroma, which he had removed by supra-vaginal hysterectomy from a virgin forty-six years of age. Profuse menstruation had been present for six years, but the tumor had given scarcely any inconvenience until about two months ago, when the incarceration of the lower lobe of the fibroid in the pelvis suddenly gave rise to very severe reflex symptoms, such as oppression about the chest, tachycardia, and intense pains along the course of all the principal nerves. The operation was performed on March 1st, since which time the temperature had remained normal, and the pulse instead of being feeble, and 140, was 80 to 90 and of normal strength.

Dr. Boldt also exhibited two specimens of fibromata which had been treated unsuccessfully by electrolysis. He had seen many cases in which electricity had proved not only useless, but actually dangerous, by causing sloughing and favoring sepsis. A perusal of the literature of this subject shows a remarkable discrepancy in the dosage of this powerful agent as employed by different operators, some stating that they use from 250 to 350 milliampères, while others find that their patients will not tolerate more than 100 to 150. The majority of patients will not bear a current above 75 milliampères. In one instance, he had proved this discrepancy to be due to the inaccuracy of the meter, and he believed that this observation applied to many other instances.

Dr. Boldt also showed a small ovarian cystoma which he had removed by opening Douglas's *cul-de-sac.* In the majority of cases he had found this operation preferable to the abdominal method.

A NEW CLINICAL CHART.

Dr. J. H. Linsley presented a chart which had been devised by Dr. Bailey and himself particularly to meet the demand for a quick and accurate method of keeping complete histories of cases undergoing Koch's treatment, but its sphere of usefulness was not confined to such cases.

Dr. Boldt thought this chart was one of the best of its kind he had ever seen ; and when one considered the immense amount of time consumed in writing histories in the usual way, and the great liability of omitting small but important details, the utility of such a device was evident.

Dr. S. T. Armstrong said that for the past six years he had been using figures representing different sections of the body, and so arranged that they could be easily gummed to the regular clinical history forms. He had been obliged to purchase these in London, and was glad that the subject had been taken up in this country. Quite recently a Brooklyn physician called attention to the advantage of using rubber stamps representing different portions of the body.

TUBULAR ANGIO-SARCOMA.

Dr. Eugene Hodenpyl presented gross and microscopical specimens of this rare condition. They were removed with one half of the lower jaw from a man about forty-five years of age. The tumor, which was about the size of a small orange, was situated beneath the periosteum, completely surrounding the jaw at a point midway between the angle and median line anteriorly, and involving the bone.

These tumors would seem to be quite rare, as Heidenhain, in an article published in 1890, found only ten recorded cases. The specimens under the microscope showed small acini, apparently lined with flat cells, and containing in their centres endothelial cells and masses of blood-globules. Klebs considers these acini to be really blood-vessels. In order to contrast this specimen with those of other sarcomata, Dr. Hodenpyl also exhibited two other specimens ; one of a sarcoma, in which spindle cells were arranged around the blood-vessels, and of a sarcoma of the liver, where the blood-vessels were lined by endothelium, and around them were to be seen large flat cells.

Dr. T. M. Prudden thought this class of tumors particularly interesting, as their true nature was often overlooked. It was well known that sarcomata had their origin in immediate association with the blood-vessels, and that many of the characteristics which they show in the early stages, and which are dependent upon the blood-vessels from which they arose, are lost sight of as these growths continue to grow ; but in the peculiar form under discussion these features, instead of being obliterated, become the predominating ones. The changes taking place in the endothelial cells, and particularly in those of the blood-vessels, merited much more careful study than they had hitherto received.

CANCER OF THE PANCREAS.

Dr. S. J. Thacher presented such a case, which was chiefly of interest on account of the misleading character of the prominent symptoms, hæmatemesis. A seamstress, sixty-five years of age, was admitted to St. Luke's Hospital, eleven days before her death. She had been in pretty good health up to six weeks before this, when she became slightly jaundiced, and suffered from vomiting and tenderness in the upper portion of the abdomen. The stools were light-colored, and the urine dark. On admission, the history states that the liver extended from the fifth rib to within one inch of the umbilicus : there was marked jaundice, and purpuric spots over the chest and abdomen. The urine contained bile-pigment, but no sugar, albumen, or other abnormal ingredient. A day or two later there was considerable tenderness, and a sense of resistance just above and a little to the left of the umbilicus. An examination of the contents of the stomach showed absence of hydrochloric acid, and the stomach-tube brought away considerable dark, grumous material. Intense jaundice and repeated hæmatemesis were the principal symptoms, and were explained by some of the physicians as being due to carcinoma of the stomach, and by others, as a consequence of hypertrophic cirrhosis of the liver. At the autopsy, the stomach was found to be normal, as was also the heart, lungs, and spleen. The lower border of the liver was half an inch above the free border of the ribs in the right mammary line. The gall-bladder was distended with black, viscid bile, and on the surface were about one dozen nodules, apparently carcinomatous. Moderate pressure was sufficient to cause the bile to flow freely. The head of the pancreas was enlarged, adherent to the duodenum, and at this spot there was an ulcer, two inches in diameter, nodular, and infiltrated, and carcinoma involved the muscular coats as well as the other coats of the duodenum. The remaining portion of the pancreas was so greatly atrophied that it was impossible to demonstrate from the gross appearance the existence of glandular tissue.

In connection with this case, Dr. Thacher said he desired to report another, which he had examined post mortem, and which presented some similar features. A colored man, fifty years of age, was delirious when admitted to the Presbyterian Hospital, two days before his death. The friends stated that for about six months, he had had pain in his back, had vomited occasionally grumous material, and had had quite recently, jaundice, and dark diarrhœal movements, containing mucus streaked with blood. On admission, he was decidedly emaciated and slightly jaundiced, and near the umbilicus was a symmetrical, conical, and slightly fluctuating tumor. Its surface was slightly nodular, and apparently continuous with the liver substance. The urine contained some bile. His pulse and temperature were nearly normal. At the autopsy, the lungs were found œdematous, the heart and spleen were small, and the stomach contained considerable mucus, but was otherwise normal. The gall-bladder measured 6 x 3 inches in diameter, and was filled with black, viscid bile, the gall-ducts in the liver were much enlarged, and the markings of the liver were dark, and fairly distinct. The head of the pancreas was replaced by a large firm, nodular mass, 5 x 6 inches, which pressed upon the pyloris, and sent projections into the duodenum, which were ulcerated for five and a half inches along the duodenum. To the left of this mass, the glandular tissue was atrophied, and another mass was found adherent to the left suprarenal capsule.

In answer to a question as to the points of differential diagnosis, Dr. Thacher replied that the jaundice pointed probably to pressure on the bile ducts, and the hæmatemesis to rupture of blood-vessels, and cancer of the head of the pancreas best explained both of these symptoms.

TUBERCULOSIS OF THE LUNG, SHOWING A PECULIAR DISTRIBUTION OF THE LESIONS.

The President presented such a case. The patient, who was suffering from dementia, was only in the hospital for twenty-four hours, when he died, almost instantly. The previous history was not very satisfactory, but there was nothing to suggest pulmonary disease. At the autopsy, the brain showed very marked thickening of the pia with œdema, dilatation of the ventricles, and granular ependymitis. With the exception of one lung, the other organs of the body were practically normal. The upper lobe of the left lung was normal excepting a slight amount of senile emphysema. At the upper portion of the lower lobe, were two or three small cavities, and extending down from these, a large number of cheesy tubercles, the lower portion of this lobe being filled with the minutest kind of miliary tubercles. Careful search failed to show the slightest tubercular change anywhere else in the body. Only two explanations of this condition seemed plausible, viz.—either that a foreign-body-pneumonia had been excited by the entrance of some foreign body containing tubercle bacilli, or else that a small tubercular process had been confined to the lower lobe, until it had broken down, and that then the products of disintegration had been distributed by aspiration throughout the lower portion of the lung.

PAPILLARY ADENOMA OF THE KIDNEY.

The President also presented a specimen of this condition. It had been removed from the kidney of a man, seventy-eight years of age. These adenomata of the kidney are comparatively rare, but are more common than is generally supposed, as they are often mistaken for fibromata, tubercular masses, and in some instances, where they have undergone change, for the colloid cystic masses occasionally found in the kidney. Wechselbaum and Greunig say that after seventy years of age they occur in ten per cent. of cases, and that they are usually multiple, and commonly of small size. When multiple, they are very important clinically, because they are often mistaken for carcinomata, and in one case in which Dr. Keyes removed the kidney, it was found to contain a very large number of these adenomata. A competent pathologist who examined the growths, pronounced them carcinomata, although a subsequent examination which Dr. Biggs had made of the recently formed tissue, showed a characteristic adenoma. The clinical history of the case also confirmed the diagnosis of adenoma, for it was nearly two years since the operation, and the patient was still perfectly well.

Dr. Prudden said that he had once seen in a child, a lung which was very similar to that just presented by Dr. Biggs, and he had considered that the peculiar distribution of the lesions was due to breaking down of a tubercular mass, and a subsequent dissemination of these products by aspiration.

He had reported some years ago to this Society a series of cases of adenomata of the kidney, in which the growths were larger than the one just presented. The cases had all pursued a benign course.

Stated Meeting, March 25, 1891.

Dr. H. M. Biggs, President, in the Chair.

AN ABDOMINAL TUMOR.

Dr. H. P. Loomis presented some tumors which had been removed by operation from a woman, forty-six years of age, who had been in excellent health up to about two years before, when she began to suffer pain in the left side of the abdomen, and this was accompanied by a rapid development of ascites. Up to three months ago she had been tapped four times. At the time of her admission to the hospital the abdomen was greatly distended, and she suffered considerably from dyspnœa. A microscopical examination of the fluid showed nothing characteristic. Various diagnoses had been made—simple ascites, cancer, ovarian tumor, and cirrhosis. On making an exploratory incision, about four gallons of serous fluid gushed out of the abdomen, and in the lower portion of the cavity these tumors were found floating in the fluid.

The growths were situated upon both sides, being somewhat adherent on the left, and they presented a cauliflower appearance. The Fallopian tube on the left side was filled with blood-stained fluid, and it was ligated near to the uterus and removed. The patient recovered from the operation, and is now perfectly well. Microscopical examination of a section of the growth showed finger-like projections covered with cylindrical epithelium, recently formed connective tissue, and acini running down into the tissue.

Dr. Loomis said he would like the opinion of the members in regard to the nature of the growth, as the diagnosis in his opinion lay between papilloma, adenoma, or cylindrical-cell epithelioma.

Dr. J. S. Ely thought it was a papilloma, and he suggested that it might have grown from the surface of the ovary, the epithelium covering it being the analogue of the germ epithelium originally covering the ovum.

Dr. T. M. Prudden said that he would not hesitate to pronounce the tumor a papilloma, or, more correctly, a papillo-adenoma; and as to the origin of the growth, he thought it probable that the adenoma, instead of being confined in cysts, had worked its way through into the abdominal cavity, and therefore it was not necessarily derived from the germ epithelium. He had often seen this process in both ovaries, but usually not to the same extent.

The President concurred in the diagnosis of papillary adenoma, and said that he had seen one case in which the macroscopical and microscopical appearances were almost identical with those found in this specimen, and in which subsequently multiple growths appeared on the surface of the peritoneum. In this case there was considerable fibro-purulent exudation in the peritoneum, and a diagnosis had been made of tubercular peritonitis. As permanent drainage of the peritoneum had been established, it was possible that the peritonitis was the result of this drainage.

Dr. Prudden said that he had seen one such case in which so much had to be removed from the abdominal cavity that the operation was abandoned. No autopsy was allowed.

PULMONARY TUBERCULOSIS TREATED WITH KOCH'S LYMPH.

Dr. H. P. Loomis also presented the lungs from a patient with pulmonary tuberculosis, who had been treated for three months with Koch's tuberculin.

C. D——, aged forty-seven, a laborer, was admitted to Bellevue Hospital on the 10th of last December, suffering from phthisis. Two years before he had pneumonia, and it was fully two months before he completely recovered from this. With this exception, he was perfectly well up to three months before admission, when he was seized with a hemorrhage, followed by the ordinary symptoms of phthisis. Consolidation was confined to the apex of each lung, but the physical signs were more marked on the left side. An examination of the sputum showed one or two tubercle bacilli in each field. The case was considered a promising one for treatment with Koch's lymph, and the first injection was given on December 19th.

This was the first patient inoculated at Bellevue Hospital, and he received in all sixty-three injections of .001 c.c. each, the largest number given to any one patient. The injection was followed by an increase in all the physical signs, but after the first week the disease in the lungs apparently became quiescent and but few râles could be heard. For about two months there was a slow but steady improvement in the patient's general condition and he gained five pounds in weight, although the process in the lung seemed to remain about the same and the number of bacilli and the amount of sputum did not diminish. There were no fever reactions following the injections, the temperature ranging from 98.5° to 101° F. On February 25th, a cavity was first noticed at the left apex. On March 2d he caught a severe cold and immediately began to fail rapidly, so that in ten days he was unable to sit up in bed. Death occurred on March 15th.

The autopsy was made fourteen hours after death. Rigor mortis was present. The heart weighed half a pound ; the valves appeared to be normal ; there were a few atheromatous patches along the first portion of the aorta. The left lung was so adherent at the apex and over its posterior border, that it was impossible to separate it without lacerating the lung substance. The upper portion contained a number of inter-communicating cavities, the largest an inch and a half in diameter. On opening these cavities they were found to contain a reddish-brown grumous fluid, made up of broken tissues and red blood corpuscles. The walls of the cavities were trabeculated and of a greenish necrotic color, and they were surrounded by a deeply pigmented zone of dense-looking tubercular tissue. The rest of the lung was of a deep-red color, and scattered through it were clusters of miliary tubercles surrounded by zones of intense congestion. These clusters were not aggregated, but separated by areas of apparently healthy tissue. All along the external border of the lung were cheesy tubercular masses, the size of a pea. The right lung showed in the lower portion of its upper lobe an area of slate-gray color, three inches in diameter, solid, with disseminated tubercles. It contained a number of cavities, none larger than a small pea. On the surface and in the substance of the lower lobe were a few clusters of miliary tubercles. The rest of the lung was emphysematous. The processes in the right lung appeared to be active and progressive ; those in the left, quiescent and healing. There was apparently no recent eruption of miliary tubercles. The microscopical examination of a section through the walls of one of the cavities in the left lung showed tubercular material containing giant-cells projecting into it. At the base of these projections were continuous areas of round-cell infiltration, all the vessels near the cavity were intensely congested, and from some of them hemorrhages had occurred. The vessels removed from the cavity were not engorged. Areas of necrotic tissue were seen about the cavity. In all the sections examined the most striking change, aside from the excessive round-cell infiltration and intense hyperæmia, was the evidence everywhere of new connective-tissue formation. Very little old connective tissue was seen. Around the necrotic areas and in the alveolar walls the round cells were seen elongating into spindle cells, and new fibrous tissue was forming. The interlobular connective tissue was greatly increased by very recently formed fibrous tissue. Under the microscope the processes in the lungs appeared to be decidedly conservative ; there was no extensive eruption of miliary tubercles found. The liver was of normal size, and microscopical examination showed fatty infiltration and some cirrhosis. The intestines were normal with the exception of three tubercular ulcers, one the size of an almond and the others of a split pea. These were found in the lower portion of the ileum. No miliary tubercles could be detected in the wall of the intestines. The kidneys showed a moderate amount of chronic diffuse nephritis. The brain was not examined.

HERNIA SIMULATING ABSCESS.

DR. T. HALSTED MYERS presented an incarcerated omental hernia, protruding through the abdominal walls near the umbilicus, with a very long and narrow pedicle, which prevented impulse and made the tumor very movable. The surrounding integument was considerably indurated, and there was a distinct inflammatory areola one inch in diameter about the mass, which thus closely simulated abscess.

CYSTIC KIDNEY.

THE PRESIDENT presented a cystic kidney which had been accidentally found in the body of a man sixty years of age, who had died of acute lobar pneumonia, and without any history of renal disease. In a number of cases of congenital cysts of the kidney which he had seen, the whole organ was involved, and the kidneys were of enormous size. One of these cases occurred in a woman who died just after childbirth, and who had been previous to this in apparently good health. In that case a most careful microscopical examination showed no normal renal tissue. In another case which had come under his observation the kidneys together weighed eighteen pounds, and the cysts were somewhat larger than in the present specimen, and existed in enormous numbers.

Dr. H. P. Loomis thought the specimen showed the cystic condition occasionally observed in very old persons. He thought it hardly probable that such a condition had existed since infancy without any symptoms referrible to the kidney.

Dr. Prudden considered the specimen one of congenital cyst of the kidney, for he was not aware of any such collection of cysts developing at a subsequent period. Although remarkable, it was nevertheless a fact that such kidneys often functionate in a certain way for years. Dr. J. S. Ely had some time ago presented the kidneys of a pig, in which absolutely no normal renal tissue could be detected anywhere, and yet the animal had grown to a sufficient size to be slaughtered.

The President said that this reminded him of a cystic kidney which had been removed from a lamb at one of the slaughter houses, and had been brought to him for examination. It appeared to be identical with the congenital cystic kidneys seen in the human being.

The President presented the heart which had been removed from a patient who had been admitted to Bellevue Hospital for "destitution," and who was in such a feeble condition that no very thorough examination was made during the few hours which elapsed between the time of admission and death. Death apparently occurred from heart-failure. The autopsy showed a large thrombus in the apex of the left ventricle, and similar thrombi in the apex of the right ventricle and in the right auricular appendix. In the left side of the wall of the left ventricle, over a considerable area, the muscular substance was almost entirely replaced by dense fibrous connective tissue. In the right side of the wall of the left ventricle, in the interventricular septum, and involving a large part of the anterior wall of the left ventricle, was an infarction of the muscle. The muscular walls, for one half or more of their thickness, had undergone coagulation necrosis, and the right coronary artery, just at its origin, was almost completely obliterated. In the smaller branches of the coronary artery were small thrombi. Strangely enough, there was not much change in the aorta or in its smaller branches. The extensive changes in the ventricular wall were evidently not of recent origin.

Stated Meeting, April 8, 1891.

DR. H. M. BIGGS, PRESIDENT, IN THE CHAIR.

CHRONDRO-MYXO-SARCOMA OF THE LIP.

DR. EUGENE HODENPYL presented microscopical specimens taken from a tumor which had been removed from the upper lip of a man, fifty years of age. Five years ago, a pimple had appeared at the site of the present tumor, and soon after its removal, two years later, the present growth appeared. It was about four centimetres in its lateral diameter, and three centimetres antero-posteriorly ; it was lobular, and quite hard. The microscopical appearances were quite remarkable, as different portions of the tumor presented, respectively, myxomatous, cartilaginous, glandular, and sarcomatous tissue. Such a tumor in this region he considered to be exceedingly rare. It had apparently originated in the sweat-ducts. The connective tissue was principally derived from the fibrous capsule. The existence of typical cartilage was very interesting, and not very common, although he had recently had a specimen from the pia mater of the spinal cord, in which such masses were found.

Dr. T. M. Prudden said that, hand in hand with the proliferation of the glandular elements, it was not unusual to have simple hyperplasia of fibrous tissue, and from this there might be a development of cartilaginous tissue, a metaplasia. The specimen presented showed just such a tissue as one might expect to develop in this way.

As to the question whether it is to be classed as a sarcoma, he could only say that such tumors are on the border line, and myxomatous tissue is so closely allied to certain varieties of sarcomatous tissue that when hyperplasia is added to this the difficulty of differentiating it from sarcoma is rendered still greater.

A CASE OF INFANTILE SPASTIC HEMIPLEGIA.

Dr. E. Fisher presented the brain from such a case. The patient, who was a woman, thirty-two years of age at the time of her death, gave a history of having been paralyzed since she was about two years of age. On examination, the usual condition of the cerebral hemiplegia of childhood was found, the paralysis in this case being on the right side of the body, more or less marked in the face, and accompanied in the extremities by a spastic condition of the muscles, and by exaggerated reflexes. There were some athetoid movements, which, however, were not especially noticeable except upon the patient's attempting to do something with the hands. She also exhibited, as many of these patients do, marked mental weakness.

The specimen showed the left hemisphere to be very much atrophied, especially all that portion posterior to the fissure of Rolando ; the left ventricle was dilated, and portions of the cortex had almost entirely disappeared. There was also marked atrophy of the opposite lobe of the cerebellum. The degeneration following upon this atrophy could be traced with the naked eye through the crus and pons into the cord, where there was marked degeneration of the opposite half of the cord, the motor tract.

The causes usually given for this infantile spastic hemiplegia of cerebral origin are meningeal hemorrhage and encephalitis. The former commonly occurs as a result of cerebral pressure during a tedious labor or, less frequently, from instrumental delivery, while the latter necessarily occurs after birth, and most commonly during the second year, either idiopathically or as a sequela of one of the exanthemata. It was almost impossible at so remote a period after the occurrence of the lesion, to say what was the origin of the condition presented in his case, but he was of the opinion that there had either been a meningeal hemorrhage, or an occlusion of the middle and posterior cerebral arteries.

In answer to a question from Dr. Armstrong, as to whether the configuration of the skull indicated the configuration of the brain, Dr. Fisher replied that this was one of twenty cases in which cranial measurements had been taken, and in this case it had been found that on the side corresponding to the cerebral lesion the skull was decidedly smaller ; it was not microcephalic, but only asymmetrical.

Dr. S. T. Armstrong thought that if a meningeal hemorrhage had occurred, some trace of it, such as a deposit or a discoloration of the meninges, would have been left ; and again, if the condition were due primarily to occlusion of the blood-vessels, he thought even the existence of an extensive collateral circulation ought not have entirely obliterated the original trunks.

The asymmetry of the skull suggested the possibility of early ossification as a cause of the atrophied condition of the hemisphere, and also suggested the possibility that an early operation might have resulted in a better development of the brain.

The President said that, as a rule, he thought a surface hemorrhage would leave some pigmentation of the meninges, but that after so long a period it was likely that, even if important vessels had been occluded, the small vessels would have become so enlarged and the original ones so atrophied that it would be impossible to determine the original cause of the trouble.

Dr. Fisher said that he did not think in this case the asymmetry of the skull was the cause of the atrophy, but rather was consequent upon the cerebral lesion.

TUMOR OF RIGHT MIDDLE CEREBRAL ARTERY.

The President presented the brain from an Irish woman, twenty-six years of age, who had been admitted to the hospital on February 14, 1891. Her family history was good, she had been in good health previously, and denied having had syphilis. Just previous to her admission, being a prostitute, she had had sexual intercourse, and a few moments after this she was seized with intense pain in the head, the left arm and leg became weak, and she fell. At the same time her sight was affected, and sensation was lost on the left side, but she did not become unconscious. On admission, it was found that the left side of the face and the left arm and leg were paretic, that the head constantly rotated to the right, that sensation was abolished on the left side, and there was left hemiopia. For the first two weeks following her admission, she was given large doses of iodide of potassium, and there was apparently some improvement in motion and sensation and in her general condition, but she was noisy and at times delirious. After this, she grew steadily worse; the pulse was rapid, the temperature rather high, and she became stupid, so that it was necessary to resort to rectal alimentation, and to drawing the urine. Shortly before death her temperature reached 106.8° F., and her respirations were 97.

At the autopsy, the thoracic and abdominal organs showed nothing of importance. On the posterior branch of the right middle cerebral artery was a tumor about the size of a pea, completely surrounding this vessel. The temporo-sphenoidal lobe was very much softened internally, and when a small opening was made, there was a discharge of blood-stained sero-purulent matter, and an examination of this fluid, showed that it contained a great many white corpuscles, disintegrated brain matter, and blood-pigment, both granular and crystalline. On section, the brain showed a cavity extending from the apex of the temporo-sphenoidal lobe nearly to the occipital lobe, and the area of softening extending into the occipital lobe and forward to the frontal lobe. There had evidently been an old hemorrhage, for after section, and while the specimen was still fresh, pigmentation could be clearly seen around the margins of this cavity. There had also been a recent hemorrhage into the cavity. Although the growth had not yet been examined microscopically, Dr. Biggs thought the history left but little doubt that it was a gumma.

Of course, the growth must have existed for some time, and the sudden onset of the symptoms in this case was best explained on the supposition that there was a sudden shutting off of the blood-supply, consequent upon the excitement attendant upon the sexual intercourse. He was of the opinion that thrombosis did occur in this way, for he knew of two instances in which thrombosis of the sinuses followed directly upon very unusual excitement, and where there was apparently no other cause. In one of these cases, the thrombosis occurred in the straight sinus. This was only the second time in which he had seen thrombosis of this sinus. In this case, it was clear from the history that the thrombosis was directly due to very severe mental disturbance.

Stated Meeting, April 22, 1891.

Dr. H. M. Biggs, President, in the Chair.

THE ANATOMICAL CHANGES OF CURED PHTHISIS.

Dr. H. P. Loomis presented the lungs from four cases to illustrate these changes. The frequent presence of these lesions in post-mortem examinations gave ground for the belief that many more persons recovered from tuberculosis than would appear from clinical observations. Out of 524 autopsies at Bellevue Hospital on persons dying of non-tubercular diseases, 43, or eight per cent. presented in the lungs the changes which he considered characteristic of healed tuberculosis. Dr. Austin Flint had stated that out of 640 cases of phthisis 43, or 6.5 per cent., recovered, and Dr. Williams, of London, reported that out of 1,000 cases 4.6 per cent. were cured. The question of the existence of tubercle bacilli in these apparently healed areas could only be satisfactorily demonstrated by inoculation experiments, and in the few experiments of this kind which he had made these bacilli were not found.

The first specimen showed at the apex of the right lung a dense, circumscribed, circular nodule, three quarters of an inch in diameter, surrounded by laminated fibrous deposits, and presenting the appearance of a solid cicatrix formed of cartilage.

The nodule was situated in the substance of the upper lobe, but connected with the puckered and depressed pleura by easily recognized bands of new connective tissue. The lungs were normal.

In the second specimen, contracted and disintegrated areas were scattered throughout the upper lobe, in which no remnant of pulmonary tissue could be found. The remaining portions of the lungs were normal. Broad white septa of dense fibrous tissue traversed this upper lobe in every direction, the bronchi were dilated, and their walls enormously thickened, and a small contracted cavity with walls one eighth of an inch thick was found near the apex.

The third specimen showed a healed cavity two inches in diameter in the upper lobe. It was closed in on all sides, and lined by a dense fibro-cartilaginous false membrane, which, in places, was one quarter of an inch in thickness. No bronchus could be found opening into the cavity. The walls were trabeculated, and vegetations projected from them, while in the most dependent portions of the cavity, some grumous, cheesy material had collected. The surrounding pulmonary tissue was indurated and infiltrated with black pigment, but the other portions of both lungs were normal.

In the fourth specimen the upper lobe, which was normal in other respects, presented a cavity one and a half inch in diameter, having perfectly smooth walls. There was but little connective tissue surrounding this, and a microscopical examination revealed the interesting fact that the cavity was lined with ciliated epithelium, and that it was therefore a dilated bronchus, and not the result of tubercular destruction of tissue. Dr. Loomis said that this was only the second specimen of the kind which he had seen.

The President said there was no question about these specimens being tubercular, and he believed with Dr. Loomis that they were of very frequent occurrence, but he would place the percentage considerably higher ; for in at least twenty per cent. of the cases dying from non-tubercular disease in the charity hospitals of this city he found these old cheesy, calcareous nodules in the upper lobes of the lungs.

Dr. T. M. Prudden also thought these lesions were very frequently met with. Their exact significance could be best determined by a comparison of such post-mortem statistics with accurate clinical records. He thought it was hardly desirable to speak of all such lesions as those of "cured phthisis," for cases in which living tubercle bacilli were found would be more accurately described by calling them cases of tuberculosis in abeyance.

Stated Meeting, May 13, 1891.

DR. H. M. BIGGS, PRESIDENT, IN THE CHAIR.

ANEURISM OF THE BASILAR ARTERY.

DR. W. L. CARR presented a specimen of aneurism of the basilar artery, just at its junction with the vertebral. The specimen was removed from a young man, twenty-eight years of age, a telegraph lineman by occupation. Eight years before he presented himself for the present trouble he fell thirty feet, and struck on the buttocks. This fall apparently gave rise to no serious consequences. There were no signs of syphilis, and the patient gave no history of such infection. With the exception of a severe attack of malaria while in Georgia, his health remained good up to April 11th, when Dr. Hoyt, of this city, to whom the speaker was indebted for the observations on the case, was called in to see the patient. He had been seized with clonic convulsions in which the head was thrown back. He complained of pain in the back of the head, and in the frontal, dorsal, and lumbar regions. There was slight tremulousness of the tongue when protruded, slight photophobia, and symmetrical sluggishness of the pupils, with possibly a slight drawing of the face to the left side. There was also a scarcely perceptible ptosis on the right side. The reflexes were lost and sensation was diminished over the extremities. Urination and defecation were normal. Two days later, when first seen by the speaker, the grasp on the right side was somewhat diminished; his pulse was 54, and full; respirations, 19; pupils somewhat contracted and sluggish; speech very deliberate, but he answered questions correctly, and related events in their chronological order. The pain in the cervical region was the most prominent symptom. One week later another convulsion occurred, and he died very soon afterward.

The post-mortem examination was made twenty-four hours after death. He was indebted to Dr. W. H. Porter for assistance in this examination, and in the preparation of the report of the autopsy. The cranium was found to be unusually thick, and on the outer surface, on the anterior portion of the calvarium, on the left side, was a deep pit as if there had been a fracture of the skull, but the internal table was intact. The dura mater was fully three times the normal thickness, and was adherent to the pia mater along the whole line of the great longitudinal fissure at the vertex, and could not be separated from the underlying tissues, except at the expense of the pia mater and the cortical substance of the brain. When the calvarium and dura mater were removed there was practically no escape of blood or serum. At the junction of the medulla and pons, all over the anterior surface of the pons, and in the inter-pedunculated space, at the base of the fissure of Sylvius, there was a distinct hemorrhage and clotting, which was most marked over the pons and the Sylvian fissure. The hemorrhage was confined between the pia mater and the brain, probably on account of the great thickening of the pia mater. The lateral ventricles were distended with bloody serum, and on the right side there was a little clotted blood. There was no laceration of brain-tissue. The hemorrhage was certainly not intra-cerebral, as on dissecting along the Sylvian fissure the vessels were found to be natural. Springing from the posterior surface and right side of the basilar artery was a sacculated aneurism, three eighths of an inch in diameter, which had burst, giving rise to the hemorrhage, cerebral compression, and death of the patient.

Dr. Carr said that he had only been able to find the record of one other such case among the Transactions of the Society, and that one was presented by the President in 1889.

Dr. W. H. Porter said that although there was no syphilitic history, it was difficult to understand how, in so young a man. there could be such an extensive thickening of the meninges, except as the result of syphilis. The disease might easily bring about such changes in the cerebral vessels that they would be unable to regulate the nutritive supply, and so would cause an unusual thickening and a strain upon the vessels. It might, perhaps, also explain the development of the aneurism. Again, it was interesting to note that the transverse foramen and the foramen of Magendie seemed to be completely occluded, and the left ventricles were very much dilated—which, together with the thickening of the pia mater and compression of the cortical substance, would explain in a measure the sluggishness of intellect and the primary convulsion which occurred before the hemorrhage. This was the fifth case of cerebral aneurism which he had seen, including in this number aneurisms affecting the middle, posterior cerebral, and basilar arteries.

Dr. B. Sachs thought there was no other probable explanation of the condition presented, except specific infection, and this view was favored by the existence of the aneurism ; for it was generally conceded that aneurisms were most commonly of syphilitic origin.

In answer to a question from Dr. Mary Putnam-Jacobi, as to whether he considered a syphilitic endarteritis to be the cause of the aneurism, Dr. Sachs said that although this form of endarteritis frequently tended to obliteration, examinations had shown in some of these cases a syphilitic endarteritis of other vessels. Aneurisms did, of course, occur in young persons where there was no suspicion of syphilis ; thus Osler reports a very interesting case of aneurism of the anterior cerebral artery occurring in a boy of six years, where there was a history of traumatism, and a distinctly negative history as regards syphilis.

The President thought the case presented was extremely rare. As bearing upon this question of the etiology of such aneurisms, he desired to refer to a case in which there was an aneurism at the junction of the anterior communicating artery, which ruptured and caused sudden death. The case occurred in private practice, and the patient, who was twenty-seven years of age, and a prominent young man in this city, gave a very accurate history. There was absolutely no specific history obtainable, and there was no reason to suspect such infection. There were no changes in the blood-vessels of any part of the body which were suggestive of syphilis or any other disease. At the site of the aneurismal dilatation and rupture, nothing could be found, except a thinning of the coats, and hence it seemed probable that the condition was the result of a congenital deficiency in the arterial walls, rather than the result of disease.

COLLOID SECONDARY TO INTERNAL CANCER.

Dr. W. H. Porter presented a small tumor, which had existed in the temporal region as a small papillary protrusion. The case had been sent to him by Dr. Janvrin, and gave a peculiar clinical history. A little over one year ago the patient, a gentleman apparently in robust health, had an extensive growth removed from the rectum, and an examination of the portion removed showed it to be carcinomatous. The patient made a slow but complete recovery. About three months later he received a blow upon the temple, and soon afterward the present tumor developed, and became so soft and fluctuating that it was supposed to be an abscess, but an incision did not evacuate any pus. After about three months more this tumor was removed and sent to the speaker for examination. He found that instead of presenting the characteristic appearances of a true epithelioma, it had the structure of a colloid. An examination of the rectum at this time showed a recurrence of the disease.

It seemed to him very strange that an integumental growth should follow one which apparently originated in the alimentary tract, and that this secondary growth should be of a colloid nature rather than of the epithelial type commonly found in the skin. He had never seen such a growth in the integument, and in a casual examination of the literature on the subject he had not found any such case reported.

A RENAL CALCULUS.

Dr. J. E. Weeks, on behalf of Dr. E. D. Fisher, presented a specimen of renal calculus which occupied the whole of the kidney, the cortex of which was greatly atrophied. The other kidney was normal. The specimen had been removed from a laborer of middle age, who had not presented any symptoms referable either to the kidney or to the bladder. The nature of the calculus had not yet been determined, but it was extremely hard.

Dr. Mary Putnam-Jacobi said that in connection with such extensive disease of one kidney it might be interesting to call attention to a method recently published by Dr. Willy Meyer, of determining by means of the cystoscope whether or not both kidneys are functionating. In the case reported, which was that of a woman, he had found that, by counting the number of drops of urine discharged from each ureter in a given time, one could form a very good idea of the functional activity of each kidney. In this particular case fifteen times as much urine was discharged from one ureter as from the other, and at a subsequent operation it was found that the kidney which had excreted the urine so slowly was extensively diseased.

Dr. Porter said that apparently there was no kidney structure remaining in the specimen just presented. The method of diagnosis just alluded to he considered a very important one. He cited the case of a female whose symptoms had all been referable to the bladder, with the exception of one very slight attack of renal colic. The bladder symptoms were so severe that an opening was made into the viscus from the vagina. The urine discharged from this opening was highly acid, and contained leucocytes and a small quantity of mucus and albumen. Subsequently the ureters were catheterized and the urine from each kidney separately subjected to examination. The urine from one kidney was perfectly normal, while that from the other was highly acid and contained mucus, corpuscles, and albumen. Several surgeons having failed to detect any stone, an exploratory operation was performed, and a large stone was found in one kidney. It was broken up and removed, and the patient recovered. His experience had led him to conclude that in cases where there were bladder symptoms associated with highly acid urine, the trouble was higher up than the bladder. In every case he had seen, where an opportunity had been afforded to confirm the diagnosis by operation or autopsy, this statement had held good.

The President said that he had been much impressed with the comparative frequency, in the autopsies at the Almshouse, of these cases of renal calculi occurring in patients who had given no history of such a condition. He had thought it likely that in the early development of the stone there had been symptoms produced, and that later on the mucous membrane became tolerant of its presence, and gave rise to no further symptoms. It is not at all uncommon to find one or more calculi of moderate size in the pelvis of the kidney when there has been nothing to suggest renal disease.

ATROPHY OF BRAIN.

Dr. J. E. Weeks presented the brain from a man, sixty-five years of age, who died in the Almshouse on April 26th, from congestion of the lungs following the "grip." Ten years ago he had an attack of right hemiplegia, from which he recovered, and a few years later he had another attack, from which he almost entirely recovered. One year ago he had still another one, which was accompanied by some defect of vision, and some difficulty in speech, and in the recognition of objects. Examination showed that he had left-side hemianopsia ; the interior of the eyes and the movements of the eyes were perfectly normal ; the pupils reacted perfectly to light when the light was on either the blind or the seeing side, and the division between these parts was perpendicular and almost perfectly straight. At first there was no motor aphasia, but during the last few days of life there was amnesic aphasia and agraphia.

On post-mortem examination, the viscera were found to be in fair condition, with the exception of the kidneys, which were small and granular. The right side of the brain was normal in size ; the left side of the cranial cavity was partly occupied by brain substance, and partly by a cyst, the outer wall of which was made up almost entirely of pia mater, while the inner wall was formed by the brain. The cyst wall was so very thin, that although the brain was carefully removed, the cyst collapsed, and its serous contents escaped. The basilar artery was found to be atheromatous in various places, and at the point where the posterior cerebral artery is given off there was a fusiform aneurism containing a clot, which was apparently of post-mortem origin. The specimen showed the left posterior cerebral artery reduced to a cord, and the right of normal size. The left middle cerebral had also been converted into a cord, and at one point where a small branch was given off there was considerable thickening. The ascending parietal and ascending frontal convolutions, and the motor region were almost intact. In the vicinity of the island of Reil the brain tissue was greatly atrophied, as was also the lower frontal convolution. The occipital lobe had almost disappeared, and nearly all the brain tissue back of the Sylvian fissure was shrunken. There was a little pigmentation and a very small spot of softening in the occipital lobe.

The symptoms were those only which could be readily accounted for by the loss of brain substance. He was unable to say what was the cause of the arterial changes, as there was no history of syphilis. The patient was a fairly intelligent man, and the convolutions, though extremely small, were all present. The preservation of a portion of the superior temporal convolution accounts for the absence of mind-blindness. The space which had been apparently previously occupied by the temporal lobe, was filled by the sub-pial cyst, but this cyst did not involve the brain.

Dr. Mary Putnam-Jacobi said that it had often been noticed that the inability to recall the names of objects was often present, when the recognition of objects and the capacity for other work still persisted, and this had been explained by supposing that so long as the mind had a visual image to work with, it was less in need of a sign than in the case of other parts of speech which could not be replaced by a visual image. The case under discussion was quite in accordance with this line of reasoning.

Dr. Sachs said that it was very unusual to find such extensive atrophy in the adult brain, and that no matter how long a thrombosis may have existed, he thought it hardly likely that it would result in an entire absence of the occipital lobe. It seemed to him more probable that it was a case of congenital deficiency of the brain. Although it was the rule for such cases to show defective intellect, it was to be remembered that quite a large percentage of cases of typical congenital deficiency of the brain had been found accidentally in persons apparently normal, who had died of some other disease, and this was readily explained by supposing that one hemisphere took upon itself the functions of the other.

Dr. Porter concurred in this view of the etiology of the condition found in the case under discussion.

The President said that he had seen a great many cases at the almshouse, where there had been large areas of destruction of brain tissue from softening, thrombosis, hemorrhage, and similar causes, but he had never seen a case in which the convolutions had been so well preserved as in this specimen, and yet where the degree of atrophy was so extreme.

Dr. W. P. Northrup thought the history of the case seemed to indicate that there had been an œdema of the pia and subsequent softening, and he thought the explanation given by Dr. Weeks was the correct one.

Dr. Weeks replied that the history was entirely against its being a congenital defect. The total loss or atrophy of the occipital lobe could be accounted for by the total occlusion of the posterior cerebral artery, which furnished the nutrition to this lobe.

The case was very similar to one which he had had under observation for two years or more, and who was still living. The patient is a woman, who in June, 1887, one week after confinement, suddenly developed left hemianopsia, and, for a short time, left hemiplegia. She recovered from the latter, but the former is still present. She undoubtedly had an embolism of the right middle cerebral artery. Fourteen months later she was again confined, and about one week after this she developed a right-side hemiplegia with total mind-blindness. At present she has amnesic aphasia and agraphia.

TUBERCULOSIS OF THE BRAIN.

Dr. Sachs presented the brain from a child who was eight and a half years old at the time of his death. Typical right hemiplegia was developed without coma or convulsions, and it pursued the ordinary course for a long time, when the child suddenly fell down without coma or convulsions. The old hemiplegia was increased, and the child passed into a comatose condition ; there was double optic neuritis, the other side became involved, as also some of the cranial nerves, and after several weeks the child died in coma. A diagnosis was made of initial palsy, due to old meningeal hemorrhage, which had probably ended in a cystic condition, and that this cystic tumor was the cause of the deepening of the old hemiparesis. The autopsy substantiated this diagnosis. The cystic condition of the cortex and the enormous size of the tumor were especially noteworthy. The basilar symptoms developed in the case were supposed to be due to basilar meningitis, and the only way of associating these two sets of facts was by supposing that the original tumor was a tubercle. The basilar symptoms were produced by the second tumor in the temporo-sphenoidal lobe. It has been supposed that accidents to the cerebral vessels in children were comparatively rare, and quite recently a writer made the statement that these accidents were necessarily the result of embolism. The structure of the cerebral vessels in children has not been sufficiently studied, but, as the speaker had pointed out, fatty degeneration of the blood-vessels in the young was extremely frequent, and therefore it was reasonable to suppose that it might play the rôle that atheromatous degeneration does in adults. The axis of the brain had become much distorted by the tumor, and the first symptoms were observed about eight weeks before death. The tumor extended from the frontal region to the occipital. The structure of the tumors seemed to him to be that of mixed sarcoma, but as some of his specimens bore a strong resemblance to tubercle, he would like the opinion of the Society upon this point.

Dr. J. M. Byron said that he had never seen a giant-cell sarcoma in which the nuclei were so distinct, and in fact there were only two pathological conditions in which the nuclei showed so clearly as in the specimen presented—*i. e.*, in tuberculosis and in actinomycosis. The specimen showed cells which were perfectly characteristic of tubercle, and hence, he looked upon this specimen as one of large solitary tubercle.

Dr. Northrup said that he was of the same opinion, for, in additon to the giant-cells present, there was a well-defined area of coagulation necrosis.

Dr. Sachs remarked that in the first specimen which he had examined there were no giant-cells at all.

The specimen was referred to the microscopical committee for examination.*

SYPHILIS OF THE BRAIN.

DR. SACHS also presented microscopical specimens from a case of syphilis of the brain, and also other slides showing the difference between a gumma in the pons and a gummatous infiltration.

The patient, a woman, thirty-five years of age, had had repeated attacks of paralysis, from which she had recovered. Finally she had an attack of paraplegia with involvement of various cranial nerves, and the diagnosis became easy of syphilitic deposit in the pons. The interesting feature was that there was not only a syphilitic infiltration of the pons, but a general infiltration along the course of the entire cord, and along the brain axis. He preferred to call this condition multiple cerebro-spinal syphilis, as the symptoms resembled very closely those of multiple cerebro-spinal sclerosis.

Dr. Northrup presented a slide from a case of gonorrhœa, showing the characteristic grouping of the gonococci about the nucleus and within the cell-body. The specimen had been obtained from a healthy young adult on the third day after exposure, and the first day on which there were any unusual symptoms about the urethra. It was his first attack, and the disease ran a typical course, and now, three and one half months later, there is still a persistent gleety discharge, in which are a few gonococci.

Children among the poorer classes not infrequently have a suspicious vaginal discharge, and it is sometimes desirable to determine whether this is simple or specific in its nature. He thought the presence of the gonococci in these characteristic groups was considered now to be an exact test in medico-legal cases.

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* See page 48 for report.

A METHOD OF RENDERING THICK SECTIONS OF TISSUES TRANSPARENT.

Dr. J. West Roosevelt said that while investigating the structure of the lungs the idea had occurred to him that it might be possible to saturate the lung with some substance which would render even large and very thick sections quite transparent. He had found a mixture of oil of cloves, oil of cedar, with sometimes a small proportion of Venice turpentine, could be made with such an index of refraction as to bring about such a novel and desirable result. The proportions of the different ingredients necessarily varies a good deal with the different specimens of the oils ; but by beginning with two thirds oil of cedar and one third oil of cloves, and stirring with a flint-glass rod, the correct index of refraction could be readily determined, for when the proper proportions were obtained, the rod would be nearly invisible in the mixture. Afterward the lungs were bleached in this mixture until the desired degree of transparency was obtained.

This method had incidentally shown a very interesting and an exceedingly satisfactory method of demonstrating the intricate structure of the air-vesicles.

Dr. Roosevelt exhibited some specimens which had been so prepared, and remarked that he thought the method was opportune, as it would probably prove useful in studying the circulatory conditions existing in the brain.

Stated Meeting, May 27, 1891.

Dr. H. M. Biggs, President, in the Chair.

A NEW METHOD OF RAPIDLY STAINING BACILLI IN SECTIONS OF TISSUES.

Dr J. M. Byron presented slides and cover-glasses illustrating a new method of staining bacteria in sections of tissues. Its peculiar feature was the rapidity with which the preparation could be made, and the ease with which the sections could be made to adhere firmly to the cover-glass. This was effected by immersion of the sections in an albuminous fluid, and then coagulating the albumen.

The sections, after being well rinsed in water, were put into a solution of equal parts of a 2 per cent. egg albumen solution and a concentrated solution of boracic acid, the latter being added in order to preserve the albumen. When thoroughly soaked with this solution, the sections are transferred to a cover-glass, immediately dried with blotting-paper, and then immersed in a solution which will coagulate the albumen, *i. e.*, absolute alcohol, or better, equal parts of alcohol and ether, or still better, in a one per cent. solution of bichloride of mercury in absolute alcohol. These agents quickly harden and fix the sections to the glass, so that it is afterward almost impossible to separate them from it. After washing with water, they are stained by any of the ordinary methods. By the employment of this method, the speaker had been able to stain tubercle bacilli in the tissues as quickly as in sputum.

RUPTURE OF THE VAGINA AND UTERUS.

Dr. A. T. Weston presented the pelvic organs removed from a woman who had died twenty-four hours after delivery. She had at first been attended by a midwife, and subsequently by a physician, who was unable to deliver the child by forceps or by version, and only finally succeeded by the application of the forceps to the after-coming head. At the autopsy, a laceration was found which extended up through the right side of the cervix and vaginal fornix into the body of the uterus, opening widely the peritoneal cavity. A large quantity of fluid and clotted blood was found in the abdominal cavity. The hand could be easily passed from the vagina through the rupture into the peritoneum.

FATAL PERITONITIS FROM NECROSIS OF THE UTERUS.

Dr. Weston presented specimens from another case of sudden death after confinement. Immediately after delivery, the woman had done so well that she was out of bed on the fourth day. About the ninth day, she suddenly developed a septic peritonitis, and died twenty-four hours later. The autopsy showed a general septic peritonitis, with diphtheritic endometritis There was a small dermoid cyst of the left ovary.

GANGRENE OF THE UTERUS.

Dr. Weston also presented a specimen of gangrene of the uterus, which was removed from a woman who died about four days after a premature birth, but just at what period of pregnancy could not be ascertained. It was evidently a case of instrumental abortion, induced probably by the patient or some friend. The specimen showed a well-defined area of gangrene, one and a half inch in diameter, at the fundus of the uterus on the left side, and two openings through the sloughing tissues into the abdominal cavity. There was a second area of gangrene in the posterior wall about the same size as the first, extending through the uterine wall. There was a general septic peritonitis There were also two spots of gangrene in the cervix, extending entirely through the muscular portion to the peritoneum, but not involving it.

These three cases had all come under his observation in less than a week.

The President said that these cases usually gave a history of mechanical interference with delivery, and of secondary infection, followed by local infection and gangrene of circumscribed portions of uterine tissue, which result in establishing a direct communication between the cavity of the uterus and the abdominal cavity. He had seen only one other case of gangrene of the uterus, and in this one the history was much the same, and there was a circumscribed spot of gangrene in the fundus, about one inch in diameter, associated with a general septic peritonitis.

DIVERTICULUM OF THE ŒSOPHAGUS.

Dr. George P. Biggs presented a specimen of diverticulum of the œsophagus. It had been removed from a man about sixty years of age, who had died of acute lobar pneumonia. There was no history bearing upon the condition.

The autopsy showed the existence of extensive atheroma of all the vessels, but particularly of the aorta, where it extended from the transverse arch to the iliacs. The whole aorta was calcareous, and in spots it was ulcerated, but there were no signs of aneurismal dilatation, and the degenerative process seemed to be confined to the intima. The diverticulum was situated about one and a half inch below the bifurcation of the trachea, and extended backward toward the spinal column. The posterior portion was accidentally cut off in removing the aorta. The opening of the diverticulum measured 2 ctm. by 1 ctm., and the diverticulum itself 4 ctm. by 2½ ctm. There were no evidences of inflammation.

AN ECHINOCOCCUS CYST OF THE LIVER.

Dr. Biggs also presented a specimen of this condition. It was found in a man about sixty-two years of age, who had died of acute lobar pneumonia. There was no history indicating the existence of such a condition. In the free border of the left lobe of the liver was a perfectly round, calcareous body, 1½ ctm. in diameter, and at the junction of the right and left lobes was a mass, 4 ctm. in diameter, projecting from the free border. The latter had a firm external capsule, and on section was found to contain pultaceous material. Microscopical examinations showed the presence of the characteristic hooklets of the echinococcus, and the laminated layers of the old cyst-wall, together with much granular material and some cholesterine crystals. In the sac-wall were a few heads of echinococci clinging to it, but the cysts had apparently disappeared.

The President presented the left hemisphere of a brain removed from a man, thirty-four years of age, who had been an inmate of the almshouse for a number of years. There was some paresis of the left side, and complete paralysis of the right, with secondary contractures. His power of speech was quite limited, although he could swear with vigor and fluency, but he could read and write, although when writing there was a good deal of muscular twitching. He died from *la grippe*. At the autopsy the left hemisphere was found to contain a large area of atrophy, which involved the posterior portion of the first and a part of the second frontal convolution, the lower portion of the anterior and the posterior central convolution, with a part also of the first temporo-sphenoidal. Over this area, as is usual in these cases, there was a kind of cyst formation, the outer wall of which was formed by thickened pia, and the internal and lateral walls by sclerotic brain-tissue. On the right side there was a good deal of dilatation of the ventricle, and some smaller areas of atrophy in the cortex. The specimen showed extremely well the sort of atrophies which were constantly found in the cases occurring in the almshouse, but it was unusual to find them in one so young. Several of the superior branches of the left middle cerebral artery were extremely small, and the walls were very much thickened, some of those vessels supplying the area of atrophy seeming to be nothing more than fibrous cords. He thought the condition was due to thrombosis, or obliterating endarteritis with thrombosis, but it might have resulted from hemorrhage. The facility that this patient showed in swearing was an interesting confirmation of the claim made, that there were centres on both sides for this faculty.

GUNSHOT WOUND OF THE BRAIN.

The President also presented sections of the brain removed from a man, aged thirty-seven, who had attempted suicide by shooting himself. The ball, which was of large calibre, entered the brain on the right side, just in front of the apex of the temporo-sphenoidal lobe in the third frontal convolution. It passed almost transversely, but a little downward and backward, through the anterior part of the brain. The track of the bullet lay above the lateral ventricle on each side, and passed through the great longitudinal fissure, above the corpus callosum, and, strangely enough, did not pass completely through the left frontal lobe, but lodged about half an inch from the surface of the cortex.

It was interesting to note that the man lived six weeks after this injury. The case occurred in the service of Dr. Charles Phelps, at St. Vincent's Hospital, and was operated upon by him. The patient was first trephined, and considerable depressed bone elevated, but the bullet was not found. He recovered from this operation, and gained a moderate amount of mental power, but he was constantly lethargic. There was scarcely any elevation of temperature for two or three weeks, and only very slight paresis on the left side. He was able to be up most of the time. After the third or fourth week he developed more pronounced cerebral symptoms, with elevation of temperature. A second operation was performed, and considerable pus and broken-down brain-matter was evacuated. The patient improved temporarily after this operation, so that he was able to get out of bed again, but he gradually failed in strength until the time of his death ; but at no time did he develop any marked paralysis.

The specimen of the brain presented was divided into sections, and showed very clearly the track of the bullet. At the site of the wound there was considerable loss of brain-tissue. After the bullet had passed through the longitudinal fissure to the left side, it had evidently cut through a blood-vessel, for there was considerable hemorrhage, and more destruction of brain-tissue.

The President said that Dr. Van Gieson had requested him to report that the tumor presented by Dr. Sachs at the last meeting and referred to the Microscopical Committee for examination, had been found to be a specimen of tuberculosis of the brain.

Stated Meeting, June 10, 1891.

DR. H. M. BIGGS, PRESIDENT, IN THE CHAIR.

CALCULUS PYELO-NEPHRITIS.

DR. H. J. BOLDT presented a specimen of this condition, and it was particularly interesting on account of its clinical features. The patient had come to him for an operation on a vesico-vaginal fistula, and previous to the operation had given no history, nor presented any symptoms referable to the kidneys. There was no pus in the bladder or coming through the fistula, and as the existence of the fistula made it necessary, in order to secure accurate results in an examination of the urine, that the ureters be catheterized, it was thought safe to omit this examination. The patient was under ether about half an hour. Three or four days after the operation she died, with all the symptoms of renal disease. Owing to the constant dribbling away of the urine the bladder was extremely small, and its elasticity destroyed. The opening of the ureters was easily seen, and there was no constriction of either ureter. The right ureter contained considerable pus. The right kidney was large, the mucous membrane of its pelvis was congested, and this cavity was filled with pus. A stone of considerable size was found here. Scattered through the kidney were small abscesses, and considerable portions of kidney-tissue had been destroyed. The left kidney was somewhat smaller, but presented much the same appearance, except that gravel took the place of the stone.

Dr. J. H. Linsley said that the unfortunate termination of the case just reported made it seem desirable to insist once more upon the frequency with which nephritis is developed after an etherization. Several cases had come under his observation in which careful examinations of the urine at intervals, for a period of six months before an operation, had been absolutely negative, and yet after a rather prolonged administration of ether a nephritis was promptly established ; in fact, even before the completion of the operation the first indications of this condition, hiccoughs, were present. In these cases the urine showed the usual characteristics of this condition—all the varieties of casts, granular degeneration, and fatty globules—and the post-mortem examination still further confirmed the diagnosis.

GLANDULAR ENDOMETRITIS AND CHRONIC METRITIS.

Dr. H. J. Boldt also presented a uterus which he had removed from a patient by vaginal hysterectomy. The patient, a married woman, thirty-three years of age, had had one child, and no miscarriages or abortions. For eight years previous to coming under his care she had been suffering from intense pains in the ovarian and lumbar regions, increasing in severity with menstruation, which was irregular and very profuse. A small ovarian cyst was removed from the right side by laparotomy. The after-treatment consisted in the use of various hygienic measures, the administration of hydrastis canadensis and of tonics internally, and locally in intra-uterine positive galvanization and the introduction of tampons. Although temporarily improved, she soon began again to suffer from severe pain and profuse uterine hemorrhages, and these not proving amenable to treatment, a second laparotomy was undertaken. The operation was rendered quite difficult by the existence of extensive and firm adhesions. There was a pyo-salpinx of the left tube, and a hæmatoma of the ovary. She was not improved by this operation, but, on the contrary, began to suffer not only from pain, but from most obstinate and distressing nausea and vomiting, and her general nutrition has rapidly and seriously impaired. All ordinary treatment seemed unavailing, and although her condition was so critical that it was thought she would die from the shock of another operation, such a procedure was decided to be the last although certainly a dangerous resort. It being evident that the uterus was the seat of the trouble, this organ was removed by vaginal hysterectomy. As was expected, the extensive adhesions to the omentum and intestines made this operation one of great difficulty, as well as gravity ; but fortunately the patient rallied, and during the week which had elapsed since this operation was performed, there had been no return of the previous symptoms, and she now appears to be convalescing favorably. A microscopical examination of the specimen showed the case to be one of glandular endometritis and chronic metritis.

The speaker added that the case was one of more than usual clinical interest, inasmuch as this was the first one on record in this country in which a chronic metritis had caused such a complex and serious condition, and had not only caused the patient endless suffering, but had actually jeopardized her life. Although the treatment was radical, and at first sight seemed hardly justifiable, the result had proved the wisdom of the treatment adopted.

Dr. W. P. Northrup presented a card specimen, showing a very remarkable tearing up of the lung in a baby of two months, as a result of an interstitial emphysema produced by severe whooping-cough. The section was taken from the right upper lobe, and the whole of this lobe was a honeycombed mass, while the middle and lower lobes were simply pneumonic. The left lung contained nothing worthy of note, except a small amount of emphysema. The speaker said this was the only specimen of its kind which he had met with out of hundreds of autopsies upon children.

TUBERCULOSIS OF OVARIES AND TUBES.

Dr. H. P. Loomis presented gross and microscopical specimens of this condition. The ovaries and tubes had been removed by Dr. Polk and sent to him for examination. The patient, who was twenty-seven years of age, had enjoyed good health up to six months previous, when she began to suffer from abdominal pains, and after being curetted by some physician a pelvic peritonitis developed. When seen by the speaker, three weeks after the laparotomy, there was nothing to indicate pulmonary tuberculosis, and Dr. Polk assured him that there were no indications of this disease about the pelvic organs. There was no ascites.

The specimen was seen to be made up of dense fibrous tissue, and contained small cavities filled with cheesy material. The tubes were dilated to the size of the forefinger, and contained the same material. The microscope showed areas of coagulation necrosis, surrounded by broad bands of connective tissue, which contained numerous giant-cells. No tubercle bacilli had been found in the sections.

Dr. Loomis considered that many cases diagnosticated as purulent ovaritis were really instances of tuberculosis of the ovaries.

Dr. Boldt said that he had seen a number of such cases, and in every case of tuberculosis of the uterine appendages ascites had been present.

The President said that nearly all the cases which he had observed had been associated with tuberculosis of the uterus, and Italian observers had succeeded in finding the tubercle bacilli in the uterine discharges. There had been no ascites in his cases.

Quite recently he had seen a case very similar to the one just presented, except that it was not so extensive. The operator, Dr. Lusk, had questioned his diagnosis of tuberculosis of the tubes and ovaries, but shortly afterward the patient developed a tubercular peritonitis, and died.

"MINERS' PHTHISIS."

Dr. H. P. Loomis also exhibited a lung which presented a somewhat puzzling condition. While there was no positive evidence of its being tubercular, he was of the opinion that it was probably an instance of cured miliary tuberculosis. There was no history. At the autopsy the left lung was found compressed against the vertebral column, and the left pleural cavity was filled with sero-fibrinous fluid. The other lung showed advanced tuberculosis, and contained a cavity at its apex. The left lung was solid, and contained no air, and the pleura was thickened. On section, the whole surface of this lung was found studded with small nodules, the upper lobe being converted into a solid mass of dense, firm, fibrous tissue, of a slaty color. The speaker presented some microscopical specimens taken from two different portions of this lung. They showed these nodules in the centre, undergoing coagulation necrosis, and around these were bands of connective tissue with pigmented deposits in the outer zones of this tissue. Between these nodules were compressed air-cells, with much fibrous tissue in their walls.

The speaker said that he could recall at least two cases in which tuberculosis had ceased to advance as soon as the pleural cavity had become filled with fluid, and he thought that the shutting off of the air from the lung, while the circulation continued, might have been sufficient to excite a connective-tissue hyperplasia, which would limit these nodules and prevent a further extension of the tuberculous process.

Dr. Northrup called attention to the fact that some of the small bronchial lymph-nodes were very dark-colored.

The President was of the opinion that the specimen was an example of "miners' phthisis," or anthracosis, associated with compression of the lung from the pleural effusion. He could not recall any case, however, in which there was such an extensive fibrous formation around the nodules. He suggested that sections from other portions of the lung be subjected to examination, and the result reported to the Society at some future meeting.

Stated Meeting, September 23, 1891.

DR. H. P. LOOMIS, VICE-PRESIDENT, IN THE CHAIR.

DR. GEORGE P. BIGGS presented a specimen showing

RUPTURE OF THE CYSTIC DUCT.

The specimen presented was removed at autopsy from a female, fifty-nine years old, colored, who gave the following history : She has had indefinite rheumatic attacks. One month previous to present sickness, she had an attack of cramp-like pains in the upper part of the abdomen, which were similar to the pains with which the present illness began.

While at work four days ago, she was taken with sudden cramp-like pains in the upper part of the abdomen. On the following day, the pain changed to a soreness which has since been increasing. Two chills have occurred followed by fever ; one on the first day of sickness, the other on the third day. Other prominent symptoms have been vomiting, constipation, abdominal distension, dyspnœa, and prostration. She was admitted to the New York Hospital on the fourth day of her sickness in very poor general condition.

Physical examination. Moist râles all over the chest. Heart action rapid and feeble, heart sounds cannot be heard. Abdomen full and tense, with marked tenderness. Conjunctiva shows marked jaundice. Temperature was 101.4°, respirations 30, and pulse 96. In the evening of the same day, her temperature rose to 104.4°, respirations 52, and pulse 132. She failed rapidly and died the same night, temperature just before death rising to 107.2°.

At the post-mortem examination, which was made fourteen hours after death, rigor mortis was absent, the conjunctiva jaundiced, and the panniculus adiposus enormously developed. There was no œdema. The abdomen was much distended and very tense. The peritoneal cavity was filled with a dark-brown, bile-stained fluid, which had a slight fæcal odor. The intestines were all matted together by an abundant, recent, fibrinous exudation. The liver and spleen were bound to surrounding organs by recent adhesions. The vermiform appendix and cæcum were normal. The diaphragm was at the level of the fourth rib on the right side, and fifth rib on the left side. The pleural cavities each contained three ounces of thin, serous fluid. The pericardial fluid was slightly increased in amount. The heart muscle was soft and flabby, but no structural change was apparent. The lungs were both congested and œdematous. The spleen was normal in size and quite soft. The kidneys showed a moderate amount of chronic diffuse change.

The orifice of the common bile duct was quite patulous, about the size of a goose-quill, and just inside the opening was seen a large gall-stone which was impacted. The stone was ovoid and about one and one half centimetre in diameter. When pressure was made on the collapsed gall-bladder, a few drops of bile and a small amount of gas escaped from the cystic duct just at its origin from the gall-bladder, into the peritoneal cavity. An oblique perforation was found at this point, which readily admitted a small probe. Upon opening the gall-bladder and gall-ducts, the point of perforation was found to be in the base of an old ulcer, about three fourths of a centimetre in diameter, located in the cystic duct, just below the neck of the gall-bladder. The edges of the ulcer were hard and smooth, while the base was in a necrotic condition. Careful search at the point of perforation, in the gall-bladder, the gall-ducts, and the peritoneal cavity, failed to show the presence of any gall-stone save the one lodged at the orifice of the common duct. The cystic, hepatic, and common ducts were all much dilated, the latter admitting a cylinder one centimetre in diameter. The gall-bladder was collapsed and only five contimetres in diameter. Its muscular walls were considerably hypertrophied and its mucous membrane thickened as the result of chronic inflammation. At the neck was found a superficial ulceration, one third of a centimetre in diameter.

The liver was of a greenish-yellow color, the right lobe about normal in size, the left lobe much atrophied. The bile ducts were distended with greenish bile and the liver cells showed considerable fatty change.

The ulcer in which perforation occurred had apparently existed for some time and must have been produced by the stone found at the opening of the common duct, early in its descent. Rupture occurred early because of the marked hypertrophy of the walls of the gall-bladder which prevented dilatation of this sac, and as a result, marked distension of the ducts was soon produced, rupture occurring at the weakest point.

Dr. H. P. Loomis considered the specimen presented of unusual interest. He had recently had occasion to review the literature of diseases of the gall-bladder and ducts, and he did not remember to have seen mention of any case precisely similar to that of Dr. Biggs. He had certainly never before seen such a case and he thought they must be very rare.

Dr. John S. Ely presented as a "card" specimen, a section of

A MYXO-CHONDRO-SARCOMA OF THE LEG.

It had occurred in a young woman, twenty years of age, and was thought to be of interest because of the rapidity of its growth as well as on account of the details of its structure.

Pain in the calf had been noticed by the patient in May, and soon afterwards a lump was perceived which grew rapidly, and in July she presented herself at the hospital for treatment. Examination showed the tumor to be hard, tender, and apparently attached to the posterior surface of the shaft of the fibula. It was removed by Dr. Gallaudet about the middle of July, the bone being carefully scraped. This tumor was examined by Dr. John S. Thacher, and was reported to be myxo-chondroma, with here and there a suggestion of sarcoma, nothing more. The wound healed but slowly, and it soon became evident that the tumor was recurring. At a second operation, on September 7th, the greater part of the fibula was removed, and with it a tumor whose dimensions were about 12 x 5 x 4 cm.

The specimen presented was from the periphery of this growth. "Mucous and cartilaginous tissue predominate in it, but in addition there is much tissue unquestionably sarcomatous. This fact is interesting in view of the belief entertained by many that chondromata frequently recur as sarcomata. Both belonging to the connective-tissue group of tumors, there is nothing inherently impossible in such a supposition, and we know that very rapid growth cells are frequently in a measure diverted from their ordinary destiny and modified in their function. But, on the other hand, it seems unlikely that a cell so highly differentiated as the cartilage cell should undergo so readily the decided change which would be involved in its conversion into the sarcoma cell, and we are inclined to believe the sarcomatous element in these cases to be present from the first, though undoubtedly overshadowed by the more abundant tissues, as in the present case.

"The specimen also illustrates the various stages in the growth of cartilage. At the periphery of the tumor it is represented by little more than a mass of cells huddled together without visible intercellular substance. The gradual merging of this into a tissue closely resembling normal hyaline cartilage, as the result of the deposition of a hyaline matrix about the cells may be seen by examining in succession the more central portions of the tumor."

Stated Meeting October 14, 1891.

Dr. H. P. Loomis, Vice-President, in the Chair.

SIMPLE PHOTO-MICROGRAPHY.

Dr. F. Abbott, Jr., presented on behalf of Dr. J. M. Byron a number of photo-micrographs as illustrations of what can be done in this line of work without any elaborate or specially designed apparatus. An ordinary microscope and camera were employed, the source of illumination being direct sunlight transmitted through yellow glass. Moderately quick acting orthochromatic plates were used for the production of the photographic negatives. The average exposure was five seconds, and the magnifying power was about 1200 diameters.

The Vice-President remarked that he noticed among the photographs one of the lepra-bacillus. So far as he knew, this was the first time this bacillus had been photographed in this country.

Dr. H. P. Loomis presented specimens from

A CASE OF INTESTINO-PERITONEAL SEPTICÆMIA.

The patient, a man thirty-eight years of age, was shot while sitting in a chair. The ball entered the left lumbar region, passing over the descending colon; it cut through the various loops of the small intestine, and striking the left ileum just above the pectineal line it was deflected upward and backward into the lumbar muscles.

Six hours after the injury laparotomy was performed by Dr. Woolsey at Bellevue Hospital, and eleven perforations in the jejunum and ileum were closed by horsehair sutures. The patient recovered from the shock of the operation, and for three days appeared to be doing well; the temperature but once reached 102°; there was no pain in the abdomen, except that which was due to the wound of the parieties; at times there was nausea, but no vomiting; the pulse was full and regular, the bowels constipated. During the fourth day the patient became rapidly worse: the temperature arose to 105½°; the pulse became small and rapid, but not wiry; the abdomen was somewhat distended, but painless; there was constant nausea, with some vomiting. The patient was perfectly rational up to the time of his death, which occurred on the evening of the fourth day after the injury.

Autopsy sixteen hours after death—rigor mortis present.

On opening the abdomen there was not the slightest evidence of any peritonitis; there was slight redness of the peritoneum covering the intestines at the point of injury; the stitches were all intact; the intestines were somewhat distended; the rectum was filled with fæces; there was not the slightest effusion in the abdominal cavity. The various organs were found in a normal condition. Leaving out the apparently healing and perfectly closed openings in the intestine, there was no cause for death from any appearance presented by the abdominal cavity.

The clinical history and post-mortem appearances of this case would seem to me to put it in the category of those cases of gunshot wounds of the abdomen which have but recently been described as dying from a peculiar kind of septicæmia, first called by Verchère intestino-peritoneal septicæmia (Verchère, *Revue de Chirurgie*, 1888, p. 559). Death is supposed to be due to the escape into the peritoneal cavity at the time of perforation of the intestine of either intestinal gases or microbes, which set up fermentation, ending in the production of ptomaines. These are absorbed, and produce the poisoning from which the individual dies.

DR. H. P. LOOMIS presented a specimen from

A CASE OF RUPTURE OF THE UTERUS.

The patient was a woman about thirty-five years of age, who, when brought into Bellevue Hospital, was so seriously ill that a thorough examination was not made. She was found to be pregnant at full term, and from the odor of the vaginal discharge, and the presence of some fever, it was supposed that there was puerperal fever and a dead, macerated fœtus. The case was seen by several physicians, and Dr. Lusk, who was present at the time, without making a personal examination, advised turning and immediate delivery. Just as the attending physician began to turn the child, the woman suddenly went into collapse, and died on the table.

At the autopsy, made about thirty hours after death, the fœtus was found free in the abdominal cavity. There were no evidences of peritonitis. On one side of the uterus, near the utero-vaginal junction, was a rent almost large enough to admit the closed fist. On opening the uterus there were no signs of septicæmia found, and nothing to explain the odor of the vaginal discharge. At the symphysis there was a large bony excrescence projecting into the pelvis, and the pressure of the contracting uterus upon this may possibly account for the rupture. There seemed to be no degeneration of the uterine walls.

Dr. George C. Freeborn suggested that, during the manipulations incident to turning, the cervix, which appeared to be very much thinned, might have been thrown toward one side, and so forced against this bony prominence at the symphysis.

Dr. R. H. Sayre remarked that the case appeared to be an argument in favor of the view now entertained by some modern gynæcologists concerning the greater safety of Cæsarean section in these difficult and obscure cases, as compared with version.

Dr. Warren Coleman said that he was present at the time version was attempted, and the operator had told him that at the time the fatal collapse occurred his hand was in the uterus and was grasping the foot of the fœtus. Owing to the fact that no *thorough* examination had been made previously, the physicians were unable to agree as to whether or not the rupture had existed prior to the attempt made to turn the child.

Dr. H. P. Loomis also presented the lungs from

A CASE OF TRAUMATIC SUPPURATIVE PLEURISY, WITH PERFORATION OF THE DIAPHRAGM, AND DISCHARGE IN THE INGUINAL REGION.

The patient, a boy, sixteen years of age, was in perfect health five weeks before his death, at which time while playing base-ball he was struck by the ball on the right side in the outer infrascapular region. He was seized with pains on the right side, cough, and slight fever. His condition rapidly becoming worse, he was confined to bed and was obliged to assume a semi-upright position. Loss of flesh, high fevers, a feeble and rapid pulse, and a cough with foul-smelling expectoration quickly followed. Ten days before the patient's death an abscess opened in the right inguinal region just above Poupart's ligament. As the nodes in this region were enlarged the abscess was supposed to be due to the suppuration of tubercular nodes. The case was diagnosed as one of acute phthisis.

At the autopsy, made eight hours after death, the right pleural cavity was found to contain about twenty ounces of thick pus; this drained into the abdominal cavity through an opening in the anterior portion of the diaphragm.

The abscess-tract extended over the anterior surface of the liver, along the outer and anterior surface of the ascending colon, and opened just above Poupart's ligament. It was shut in by adhesions, and there was no general peritonitis as would be expected. On the folds of some of the intestines was found a fibro-purulent exudation.

The heart, liver, spleen, and kidneys were normal.

The lower lobe of the right lung was consolidated, and areas of consolidation of a grayish color were found scattered throughout the middle lobe of the right lung and the lower lobe of the left. The gross appearance of the lungs was very characteristic of a tubercular pneumonia, but on microscopical examination only a catarrhal pneumonia could be recognized, unaccompanied by any bronchitis. The following are the interesting points of the case:

1. The close connection between the injury from the base-ball and the sudden development of a suppurative pleurisy.

2. The perforation of the diaphragm at the unusual site—its extreme anterior border,—and the circumscribed tract of the abscess downward over the liver with no general peritonitis.

3. The opening of the abscess above Poupart's ligament, on the site of the enlarged node.

4. The clinical history and the physical signs simulated closely those of acute pulmonary tuberculosis with the formation of a cavity on the right side. When the case was first seen there was but a small amount of pus in the right pleural cavity, and no succussion could be obtained, although pyo- or hydro-pneumothorax was carefully considered.

Stated Meeting, October 28, 1891.

DR. H. M. BIGGS, PRESIDENT, IN THE CHAIR.

DR. T. MITCHELL PRUDDEN presented a series of specimens illustrating

THE EFFECTS OF DEAD TUBERCLE BACILLI ON THE BODY CELLS.

He and Dr. E. Hodenpyl had made an experimental study of these effects, and he desired to present a brief outline of the work.

For some time past, it has been known that certain substances, when brought into contact with living cells, had the power of drawing these cells to them, or of driving them away. This power does not seem to be dependent upon the tactile sensibility of living cells, particularly the leucocytes, but upon chemical action. This phenomenon has been given the name of "chemotaxis," and is designated as *positive* or *negative*, according as the cells are attracted or repelled. Many substances have been tested in regard to their chemoctactic power, and particularly the bacterio-proteins. It has been shown that when bacteria die, and their bodies disintegrate, they have the power of attracting leucocytes, and it has also been shown that under certain conditions dead and disintegrating bacteria stimulate certain cells to proliferation.

About one year ago it had occurred to Dr. Prudden and Dr. Hodenpyl that, owing to the peculiar effect which the tubercle bacillus had upon the body, it might prove instructive to investigate the effects produced by the bacterio-protein of this bacillus. The experiments were begun by securing large amounts of cultures of the tubercle bacilli. Ordinarily, the time required to kill this bacillus by the usual sterilizing process by steaming is fifteen minutes, but to make sure that their vitality was completely destroyed, they were subjected to the process of steaming for varying periods, the shortest time being two and a half hours, the longest five hours, and the average four hours. Strange to say, the bacilli were found to stain just as well after this process as before, and, in short, they were morphologically unchanged. Great care was taken to remove from the outside of these bacilli all traces of the culture material, and of chemical products, by subjecting them to repeated washing and filtration.

Having certainly killed the bacilli, and freed them from extraneous substances, they were introduced into the body in various ways, beneath the skin, into the peritoneal and pleural cavities, into the blood-vessels, and into the lungs through the trachea. The first effect noticed was a marked positive chemotactic action exerted upon the leucocytes. The second effect was to stimulate to proliferation the body cells in the region in which the bacilli had lodged ; thus, if they lodged in the blood-vessels, they would excite proliferation of the endothelium, if in the connective tissue, a proliferation of the connective-tissue cells, if in the epithelium of the lungs, a proliferation of these cells. In the latter case, not only was a distinct epithelioid tissue produced, but a stroma was formed, and in about ninety per cent of the cases, giant-cells were developed. The more finely divided the culture material, the smaller would be the resulting lesion. Contrary to expectation, not once has caseous degeneration been observed in the many animals subjected to these experiments. The nearest approach to it has been an occasional necrosis of the leucocytes, which showed itself first in the body of the cells, the nuclei remaining intact, which is not the case in true cheesy degeneration. There is a gradual but steady conversion of these new areas into fibrous tissue, and as they change into cicatricial tissue, contraction takes place, and the blood-vessels still remaining are made to gape widely. In a few cases, calcareous deposits have been noticed in the new-formed tissue. Sometimes these areas will remain as epithelial nodules for two or three months.

The process which has just been described is probably due to the action of the bacterio-protein, for at first, the bacilli are well formed and can be stained, but gradually they become granular, and finally disappear, and about this time all active change seems to have ceased.

From the observations thus far made, it would seem probable that the morphological changes produced in the body by the tubercle bacilli are due to the setting free of the bacterio-protein, for the lesions produced by this substance are, except for the cheesy degeneration, almost identical with those seen in tuberculosis. The bacilli are constantly being reproduced in tuberculosis, but there is no reason for believing that they are long-lived. It is true that no explanation has yet been offered for the caseous degeneration and the toxic effects occurring in tuberculosis ; but it is not improbable that inoculations of bacterio-protein of the dead tubercle bacillus, along with some material extracted from the cultures, may give rise to these two as yet unexplained effects.

Dr. Prudden presented both gross and microscopical specimens to illustrate the experiments which he had just described. The specimens under the microscopes showed the first effect of the inter-tracheal injection of the dead bacilli ; next, the formation of the zone of new epithelioid celled tissue and giant-cells around the collected leucocytes, and the gradual development of connective tissue.

In answer to a question from Dr. H. P. Loomis, as to whether similar results might not follow the injection of inert substances, Dr. Prudden said that they had made a long series of control experiments with inert substances, such as lycopodium and carmine, and with irritating substances, like red pepper, and with various bacteria, and had obtained entirely different results The gathering of the leucocytes only initiated the process, and was not an essential feature. He knew of no other injection which had resulted in this cell proliferation. The experiments just described might have some bearing upon a subject which had been frequently discussed in the Society, viz., cases which they had been accustomed to call "healed phthisis." In these, nodules had been found at the apex, containing tubercle bacilli which could be stained. It was possible, in the light of these recent experiments, that such lesions might be produced by *dead* bacilli, or at any rate were not foci for fresh infection.

The President asked if inoculations with the material from cheesy nodules had not in almost all instances produced tuberculosis.

Dr. Prudden replied, that it had done so in many instances, but it could not be produced at will in this way in every instance. He thought that if a nodule pursued the course described in the experiments, and did not undergo cheesy degeneration, it might be regarded as a pseudo-tubercle.

A METHOD OF RAPIDLY COLLECTING DEPOSITS FOR MICROSCOPICAL EXAMINATION.

Dr. George C. Freeborn said that at the last meeting of the Congress of Internal Medicine, held at Wiesbaden last April, Dr. Littman, of Berlin, had presented a centrifugal machine adapted for the rapid separation of deposits from fluids for the purpose of microscopical examination. In the machine presented at that time, a speed of 9,000 revolutions per minute could be obtained. Dr. Freeborn said that he desired to present to the Society a home-made machine of this description, which, although capable of only about 950 revolutions per minute, had answered admirably the purposes for which it was devised. He had taken the necessary gearing from an ordinary rotary drill, and this, combined with a table-clamp and a disk of sheet brass attached to the end of the spindle were all the essential parts. To the periphery of the disk of brass a number of wire gauze cylinders are pivoted, so as to hang vertically when the machine is at rest, but when the machine is in rapid motion, they are thrown outward, just as are the balls of an ordinary steam-engine governor. The fluids from which the sediments are to be collected are contained in small glass tubes, conical at the bottom. These tubes are introduced into the gauze cylinders, and the disk is then revolved rapidly. In this way the sediment is thrown to the bottom of the collecting tubes, and may then be removed from them by means of a long and very slender capillary pipette. In some of Dr. Littman's experiments with urine, it was found that by twirling the tube for four minutes, then decanting the urine into another tube, and repeating the process twice, the urine could be rendered absolutely free from sediment. Crystals could of course be very readily collected in this way, and enough casts for diagnostic purposes could be obtained in five minutes with this machine.

In order to demonstrate the action of his machine, Dr. Freeborn employed three different mixtures: one of lime water holding in suspension very finely divided carbonate of lime, another of blood mixed with normal salt solution, and the third containing water and carmine. Putting the machine into action for about half a minute was sufficient to show an appreciable quantity of sediment at the bottom of the tubes. In ordinary urinary analysis, not only would this new method enable the microscopical examination to be made about twenty-four hours sooner than formerly, but it would effectually prevent the decomposition of casts, which was liable to occur when the urine had to stand for many hours in order that the deposit might settle.

Dr. J. S. Thacher presented a specimen showing

STENOSIS OF THE MITRAL, AORTIC, AND TRICUSPID VALVES.

Each auriculo-ventricular orifice just admits the little finger. The aortic is almost completely closed by a large round vegetation.

The patient was forty-six years of age, a married woman. Ten years ago she had a severe attack of rheumatism. Four years ago she began to suffer from œdema, ascites, dyspnœa, cardiac palpitation, and pain in the left chest.

The symptoms have been worse since that time, except when relieved by treatment. The patient has been under observation for a year and a half, and the following notes were made regarding the heart murmurs :

April 2, 1890 : A basic systolic murmur can be distinguished in the tumult of heart-sounds. The heart reaches from the second to the seventh intercostal space.

April 4th : A loud double basic murmur, with its greatest intensity over the pulmonary area. A venous pulse in the external jugulars.

April 27th : A double murmur at the base, and a mitral systolic murmur transmitted a little way towards the axilla.

May 25th : A double murmur at the base and apex.

Oct. 21st : A double aortic murmur, and a systolic murmur at the apex.

Dec. 27th : A double murmur at the base ; at the apex the sounds are confused.

Jan. 9, 1891 : A systolic murmur at the base and a double murmur at the apex.

July 14, 1891 : At the apex a blowing systolic murmur, at the base and down the sternum a diastolic murmur.

September, 1891 : A double aortic and a double mitral murmur.

She has had little or no œdema of the legs, but marked ascites, having been tapped during the year and a half thirty-four times, with an average of twelve to fifteen pints removed at each tapping.

The urine in April, 1890, contained 60 % of albumen and hyaline casts. The casts were not found later, and the albumen rapidly diminished to a faint trace. The kidneys at the autopsy appeared but slightly changed, but the microscope revealed considerable chronic nephritis.

The liver on May 1, 1890, was made out to be normal ; on May 25th, it reached three inches below the border of the ribs, but at this time there was a large amount of fluid in the right pleura. Sept. 18th, it was noted as pushed up. June 11, 1891, she had a severe attack of pain over the region of the liver, and her temperature was about 102°. July 14th, it was noted that the liver was greatly enlarged and tender. September, 1891, it reached a few inches below the border of the ribs; at the autopsy it did not reach below the border of the ribs, and was of normal size, weighing sixty ounces, but with much thickening of the capsule and many adhesions. (The diaphragm was at the normal level.) Microscopically the liver showed marked congestion, considerable cirrhosis, and fatty degeneration.

Also a second specimen

OF A BLADDER SHOWING THE OPENINGS OF FOUR URETERS.

RUPTURE OF PELVIC HÆMATOCELE DURING DELIVERY.

Dr. H. P. Loomis presented the uterus and vagina from a woman, thirty-one years of age, who had been attended by a midwife, and delivered instrumentally. She was confined three days before her admission to the hospital, and the husband states that the labor was difficult and that an operation was required. On admission her condition was such as to preclude a thorough examination, and she died twelve hours later. At the autopsy the abdominal cavity was found filled with bright fluid blood, and with large clots in the pelvis, on the left side and behind and around the descending colon. There was no peritonitis. The hand could be passed through Douglas' cul-de-sac into the abdominal cavity. This rupture had evidently been attended by a profuse hemorrhage which had caused death. Behind the lower portion of the upper part of the vagina was found the old and emptied cavity of a pelvic hæmatocele, which was evidently extraperitoneal. The size of the hæmatocele was about that of an orange. There was also a small dermoid cyst of the ovary, which, however, was only incidentally of interest. Whether the rupture was caused by the pressure of the child's head or from instruments it is difficult to say.

Stated Meeting, November 11, 1891.

Dr. H. M. Biggs, President, in the Chair

Dr. George P. Biggs presented specimens of

LARGE-CELLED INDURATIVE HYPERPLASIA OF THE LYMPH NODES.

The specimens had been removed from a boy, fourteen years of age, who had been admitted to the New York Hospital on

July 10th, with a history of a development of these nodules after an attack of scarlet fever, ten years before his admission. A small nodule had first appeared at the angle of the jaw on the right side, which had grown slowly and interruptedly up to one year ago, since which time the growth had been more rapid. The patient's general health was good, and the growths were not painful. Examination at that time showed a lobulated tumor, measuring 3 ctm. antero-posteriorly, and 2½ ctm. vertically. It was not adherent to the subjacent tissues, and was not tender or painful. Four days later, the growth was easily removed by operation, and it was found to consist of eight ovoid bodies, varying in diameter from 1 to 4½ ctm., held together by vascular fibrous tissue. These lobules were smooth exteriorly, firm to the touch, of a gray color, and homogeneous in structure. Under the microscope, they were seen to be composed chiefly of large round and spindle cells, arranged in the form of lymph nodules, and scattered through this tissue was a reticulum of lymphatic tissue which stained more deeply than the surrounding structures. Near the centres of some of the lobules were single giant-cells resembling in every respect the tubercular giant-cell. No tubercle bacilli were found.

As is evident from the description, the structure closely resembles that of tuberculous lymph nodes ; but in view of the long duration of the process, and the absence of degenerative changes, and of tubercle bacilli, the specimens could not be considered as of tubercular origin, but as instances of large-celled indurative hyperplasia of the lymph nodes. According to Ziegler, this process consists in the transformation of normal node tissue into a large-celled tissue having none of the characteristics of the original structure. This large-celled tissue consists of polygonal and spindle cells closely packed together, with very little intercellular substance. The resemblance to tuberculous change is sometimes made still more striking by the occurrence of giant-cells. These hyperplastic glands are quite dense, and often reach a considerable size without undergoing soft caseation ; but hyaline degeneration is common.

The President remarked that the condition just described was of great interest on account of the great liability to consider the process a tubercular one, and this mistake was most likely to occur when the cervical nodes in a young person were the subject of this form of hyperplasia.

THE PRESIDENT presented specimens from

TWO CASES OF IMPACTED GALL-STONE.

In the first case, a patient in the almshouse, about sixty years old, came under his care about three months ago. At that time there was very marked jaundice and considerable vomiting, and she complained of indefinitely localized pain and tenderness in the abdomen. It was suspected that her symptoms might be due to impacted gall-stone, but a careful examination failed to show any enlargement of the gall-bladder or of the liver. The vomiting was soon relieved, and after three or four weeks a large cystic tumor developed in the left side of the abdomen, and its growth was accompanied by a corresponding diminution in the jaundice. The cyst was tapped twice, and a total quantity of about four quarts of a dark brownish-yellow and rather thick fluid was removed. When there was a temporary cessation in the growth of the cystic tumor, the jaundice was decidedly increased. The patient's death was due chiefly to exhaustion, possibly aided by a localized peritonitis, and by the interference with the general health resulting from an abstraction of the bile from the system for so long a period. At the autopsy there was found a large cyst, the walls of which were formed by the diaphragm, the upper surface of the left lobe of the liver, the inner surface of the spleen, the outer surface of the stomach, and coils of small intestine, all matted together by exudation. The cyst contained the same kind of fluid which had been removed by tapping. On separating the adhesions on the upper surface of the left lobe of the liver a number of small openings were observed, and on cutting into the liver it was found to be bile-stained. On the under surface of the left lobe of the liver was a very recent ulceration surrounded by adhesions. The gall-ducts were much dilated, and were surrounded by deep pigmentation, and apparent necrosis. Just at the termination of the common duct in the duodenum was an impacted gall-stone, which probably completely occluded this channel during life, although at the autopsy a probe could be easily passed into the duodenum. The common duct was more than one centimetre in diameter, and just at its junction with the cystic duct was an old and rather deep ulcer, which had apparently been produced by the pressure of the stone during its descent. The walls of the gall-bladder were very much thickened, and the entire inner surface was covered with a fibrinous exudation. The hepatic duct was greatly dilated, and its terminal branches communicated with the small openings found on the upper surface of the left lobe of the liver.

From this examination, it seems probable that the stone having completely occluded the common duct, the hepatic ducts became enormously dilated, and infection having occurred in some way, it resulted in an ulceration of the left lobe of the liver, and the establishment of a communication between the ducts and the peritoneal cavity. The adhesions which developed around this point of infection resulted in the formation of the cyst, into which the bile was discharged. The cyst was probably at least four or five weeks old, and was surrounded by exudation, which had become partly organized. The fluid showed that the cyst must have been associated with the gall-bladder or with the gall-ducts. It is certainly very rare for the bile to be discharged by ulceration in the terminal branches of the hepatic duct.

The second specimen was from a woman who had been in apparent health up to the time of her admission to the hospital. She was then slightly jaundiced, but complained only of vague abdominal pains, and of feeling weak. She died suddenly on the following day. The autopsy showed a beginning general peritonitis, the exudation being most marked in the pelvic cavity. The gall-bladder was enormously enlarged, and so great was the distension of the cystic and common ducts, that they could be easily mapped out before opening the abdomen. On making pressure on the gall-bladder, the papilla projected into the duodenum in a conical form, from one half to three fourths of an inch, and at its opening was a gall-stone. This could be easily dislodged, and then it was found that the duct easily admitted the index finger. Had death not occurred so early in the case, there would have been probably an ulceration of the papilla, and the stone would have been discharged into the intestine, leaving the duct again pervious. As in this particular case the cystic duct was not more than one fourth the diameter of the common duct, it was fair to assume that the gall-stone could not possibly have passed from the gall-bladder into the common duct, but must have been either formed in the common duct, or have passed into it, when the stone was still quite small. The beginning of the hepatic duct was enlarged sufficiently to easily admit the end of the little finger.

The frequency with which gall-stones are found in the old people in the almshouse has been commented on, but no satisfactory explanation has yet been offered.

Dr. H. P. Loomis remarked that as the stone did not adapt itself well to the end of the papilla, but admitted the passage of a probe alongside of it, this might account for the slight degree of jaundice.

Stated Meeting, November 25, 1891.

DR. H. P LOOMIS, VICE-PRESIDENT, IN THE CHAIR.

CRURAL HERNIA IN THE FŒTUS.

DR. ELIZABETH M. CUSHIER presented an embryo of three months, showing a very marked crural hernia. In this case there was no possibility of its being the result of traumatism. The integument had been broken through, and the intestines lay upon the thigh of the embryo. Dr. Mary Putnam-Jacobi, who had seen the specimen, had called attention to the unusual shortness of the umbilical vein, and the displacement of the liver, and had suggested that the hernia was the result of this displacement. This seemed a rational explanation, as the pressure of the intestines in the lower part of the abdomen might have distended Poupart's ligament and the crural ring, which is so small in the embryo, and in this way have favored the protrusion of the intestine.

Crural hernia in the young subject was very rare; in six thousand cases quoted by Gerhardt, no instance of such hernia was found in a child under one year of age. Dr. Cushier had been able to find only one example of this condition occurring in the fœtus, and that one was reported by Picquet in the *Bulletin* of the Anatomical Society of Paris in 1846. That case bore a striking resemblance to the one just presented. The mass was in the left crural region instead of the right, as in the present case; the integument was intact, and the liver as well as the intestine protruded from the ring.

DR. H. N. HEINEMAN presented specimens from a case of

ABSCESS OF THE BRAIN FOLLOWING OTITIS MEDIA.

The patient, a man twenty-one years of age, and a printer by occupation, stated that his mother was a drunkard, and that he had been intemperate, and had often been without sufficient food.

He did not indulge in tobacco, and he gave no history of specific disease. Eight years before coming under observation, he had scarlet fever, and this was followed by middle-ear disease and a discharge from the ear, which remained constant for five years, and then recurred about four times a year. These relapses were usually the result of exposure to cold during a debauch, and while they lasted he was often delirious. He was admitted to Mount Sinai Hospital on November 20th. One month prior to this the ear began to discharge, and after a week of this he suddenly fell to the ground without a cry, frothed at the mouth, and was unconscious for a moment, with the pupils dilated, and the facial muscles twitching. From this time on he was delirious, frequently violent, and displayed a decided suicidal tendency. The temperature remained normal. Owing to his condition, there was no opportunity for observing the character of the gait. As there was only slight mastoid tenderness and no indications for immediate operation, the treatment consisted in keeping the ear clean by thorough irrigation. He died suddenly two days after admission. At the autopsy, the lungs were decidedly congested, but otherwise normal ; the heart showed a diminution of the fat as the result of insufficient food during life ; the liver, spleen, and kidneys were enlarged and congested, and the kidneys were of stony hardness and their capsules were not adherent. The stomach was small and contracted, and its mucous membrane thickened and coated with considerable muco-pus. The calvarium was normal, except that its inner surface was rather dry. The convolutions of the brain over the upper, lateral, and posterior portions were somewhat flattened, the pia mater was dry and lustreless, and its vessels were congested. On attempting to remove the brain, there was a sudden gush of pus from a cavity formed by the dura mater and pia mater. This abscess had destroyed fully four fifths of the cerebellum. The dura mater over the petrous portion of the temporal bone was covered with a layer of fibrin and pus, but there were no evidences in this region of carious softening or of involvement of the bone itself. There was no pus along the vessels, and the meningitis was surprisingly limited.

Such a history of discharge from the ear, either constant or intermittent, associated with the slightest cerebral symptoms, even if not accompanied by any œdema of the mastoid region, furnishes sufficient grounds for immediate operation. Where the temperature ranges high—103° to 104°—a delay of even forty-eight hours will, in most cases, be sufficient for the meningitis to have progressed so far that operation is almost hopeless. Although it hardly seems warrantable to undertake an operation when there are only such few symptoms, it must be remembered that the decision of this question rests not upon the individual case, but upon experience at large, and the opinion just expressed finds abundant confirmation among aurists. The patient should be given the benefit of the doubt ; if the operation be properly performed, it does no harm, and it may be the means of saving life.

The bacteriological history of ear disease is not without interest. Friedlander's bacterium, Wechselbaum's coccus, Fränkel's pneumonia coccus are among the more important organisms which have been found in these cases. Some observers had claimed that where the streptococcus and staphylococcos pyogenes aureus were present, further complications were indicated. It had been conceded by all observers that no conclusions could be drawn from simple microscopical examinations, but recourse must be had to cultures and inoculations. During the past two years, Rosenbach had found in the course of his bacteriological studies, one case of chronic otitis in which streptococci and staphylococci were present, and another case in which he found a bacillus which has not yet received a name, but which is apparently responsible for the disagreeable odor characteristic of the discharge in these cases.

DR. T. H. THACHER presented a case of

APPENDICITIS WITH PERINEPHRITIC AND SUBDIAPHRAGMATIC ABSCESSES AND PERFORATION THROUGH THE LUNG.

The patient died in St. Luke's Hospital immediately after admission, and this is all that is known of his history. About three weeks before, he had pains in the right iliac region, with vomiting. When admitted to the hospital he had bloody and purulent expectoration. At the autopsy the vermiform appendix was found passing upwards and backwards behind the ascending colon to the region of the kidney, and for the greater part of its extent appearing normal, but the extremity was a little distended, and about a half inch above the level of the umbilicus opened into an abscess about the kidney.

This abscess reaches upwards from a level about one inch below the umbilicus along the front of the kidney, to the under surface of the liver; from here some sinuses lead behind the liver to a large abscess between the liver and diaphragm, which contains about a quart of pus. From this cavity a small perforation through the diaphragm opens into the substance of the lung, the pleura at the base being adherent.

In this connection I would like to report a somewhat similar case, on which I made an autopsy several years ago. The patient, seventeen years of age, was treated in the Emigrant Hospital, on Ward's Island, with the diagnosis of pneumohydrothorax of unknown origin. The autopsy showed a perforation of the vermiform appendix; a small, hard piece of fæces, somewhat resembling a cherry-stone, was found just outside of the appendix in the iliac fossa; there was black, gangrenous, foul-smelling inflammation running up from this point along the kidney to the back of the liver, then to the vertebral column, and along this into the chest.

The right pleural cavity contained a large amount of thick pus, with very bad odor.

Dr. Heineman said that these specimens were always of great interest. The condition just described was generally looked upon as a rare complication, but he had personally met with not less than six or eight cases where a perityphlitic abscess had perforated into the pleural cavity, causing empyema and death. With our present knowledge of perityphlitic abscess, it seemed hard to believe that not many years ago, even experienced and careful observers always expected them to point anteriorly, and if a tumor formed in this region posteriorly, one of the last conditions thought of was perityphlitic abscess. For example, a woman came into the Roosevelt Hospital with a tumor pointing backward, and although seen by many of the visiting staff, no one suspected perityphlitic abscess. The cavity was incised and washed out, after which new sinuses kept constantly forming, and for a period of six years she gave the house staff ample opportunity of becoming acquainted with the treatment of such sinuses. Finally the prolonged suppuration caused waxy degeneration, and the patient died in 1871. He had presented the specimens to this Society in 1878. They showed that originally she had suffered from a perityphlitic abscess.

Dr. H. P. Loomis presented a case of

PRIMARY CANCER OF THE BLADDER.

Joseph D., aged forty-seven, was perfectly well until four years ago, when he began to have venal colic, accompanied by frequent and painful micturition, with bloody urine. During these attacks, which lasted from four to eight days, he would pass small calculi, following which all symptoms disappeared, and he would be as well as ever for three or four months ; then would come a repetition of the trouble. The last attack occurred four days prior to his admission to Bellevue Hospital. His urine was scanty, but the desire to urinate occurred every fifteen or twenty minutes, and after straining he would only pass a small quantity of blood containing a few clots. The diagnosis lay between stone in the bladder and a tumor, the majority of physicians inclining to the latter. An examination of the bladder by a "searcher" gave negative results, for the organ was firmly contracted, and a large clot seemed to interfere with the manipulation of the instrument. On the third day after admission the patient became comatose, and died within twelve hours.

Autopsy : Twenty hours after death, rigor mortis present.

All the organs were normal, with the exception of the bladder and kidneys, which presented the following appearances :

The bladder contained a fungoid mass three and one half inches in diameter, projecting from the posterior wall just above and around the left ureter ; its surface was ulcerated. A half dozen hard nodules, varying in size from a pea to a small cherry, were scattered over the wall of the bladder. The walls of the bladder were hypertrophied, and hardly any normal mucous membrane could be found. There were no blood clots or stones in the bladder. The left ureter was dilated to twice the size of a pencil, and its wall very much thickened. The left kidney was of normal size, but on section hardly any kidney substance was found, its place being taken by a number of cavities communicating with the dilated pelvis of the organ. The cavities and pelvis contained a muggy yellow fluid, but no calculi. The right ureter was slightly dilated, and the right kidney somewhat enlarged. A microscopical examination of the organ showed a moderate amount of chronic diffuse nephritis, with intense congestion and, in places, cloudy swelling.

Primary tumors of the bladder are of rare occurrence, although quite frequently the organ is involved secondarily, especially by extension from the uterus or rectum.

Of the primary tumors, the most common form met with is the "villous tumor."

Zeigler says " primary cancer of the bladder is of exceedingly rare occurrence."

Besides the infrequency of this condition, the specimen is of interest as showing the difficulty which must be experienced in differentiating the condition from "stone," especially when the history of the passing of stones is as clear as in this case. The stones passed during the last two years of life were repeatedly examined by the physician in attendance ; yet none were found in the bladder or kidneys at the post-mortem. Was there a connection between the gravel and the cancerous development? Although the bladder symptoms date back four years, still it is impossible to conceive of cancer of the bladder lasting over this period. The condition of the left kidney is unquestionably due to hypronephrosis. The growth in the bladder partially occluded the orifice of the left ureter. The right kidney for a long time without question had alone been carrying on the urinary excretions. Suddenly an acute nephritis was developed ; uræmia, coma, and death followed.

Dr. H. P. Loomis presented a specimen showing

ULCERATION OF THE VERMIFORM APPENDIX WITH PERFORATION.

The patient, a boy thirteen years of age, showed the ordinary symptoms of appendicitis for six days. Then suddenly the symptoms of general peritonitis supervened, and he died within twenty-four hours.

At the autopsy there were the usual signs of acute peritonitis. In the right iliac fossa was a circumscribed abscess containing about a half pint of foul-smelling pus, and a round, hard pellet of fæcal matter, the size of a cherry, in which no foreign body could be found.

The vermiform appendix was as large as a lead pencil, and 3½ inches in length, swollen, non-adherent, and covered by a recent exudation of lymph. An inch from its free extremity was a ragged opening large enough to admit the tip of the little finger ; the end of the appendix was almost detached, and was only joined to the main portion by bands of neurotic tissue.

The case is interesting as being one in which, no doubt, early surgical interference would have saved the life of the patient. I am indebted to Dr. W. H. Haynes for the specimen.

Dr. H. S. Stearns remarked that about one year ago he had presented to the Society a very similar case, in which there was a primary cancer with colloid degeneration, but with no history of calculi.

Stated Meeting, December 9, 1891.

DR. H. P. LOOMIS, VICE-PRESIDENT, IN THE CHAIR.

DR. SAMUEL W. LAMBERT presented specimens of

FILARIA SANGUINIS HOMINIS.

The patient was a young man of negro descent, nineteen years of age, and a native of Santa Cruz. In July, 1890, the first symptom was noticed—*i. e.*, a turbidity of the urine, most marked early each morning. The following month he came to New York, and while on the ship all the symptoms disappeared without treatment. He has been here ever since, and has felt perfectly well up to November 30th, of this year, when the same symptoms returned. The first urine passed in the morning looks like milk, but that passed at other times is only slightly turbid. He complains of some dyspnœa on exertion, and of gastric distress ; his appetite is good, tongue clean, and bowels regular. There are elastic swellings in each inguinal region, which appear to be of lymphatic origin. An examination of the urine showed it to have a specific gravity of 1026, an acid reaction, and to contain albumen, fat, pus cells, and a few red blood corpuscles. No filaria have been found in the urine, and only twice in the blood—at 11 P.M. on December 2d and 8th.

The filaria sanguinis hominis is the embryo of a nematoid worm, first described in 1873. The parent is three and a half inches long, and lives in the human lymphatic system. There are numerous larvæ, which are born alive. The young filaria live in the blood, and appear in the general circulation only at night, although one observer states that if the patient eat during the night, the worms appear during the daytime. They may give rise to hæmaturia, chyluria, or both. But little is known of their development after leaving the body. They have considerable vitality, as shown by the fact that those recently taken from this patient, and placed on a slide with only a little paraffine around the cover glass, have, without further precautions, remained quite active for five days. Eight varieties of filaria have been described.

Dr. Lambert showed the urine which had just been passed by the patient, and remarked that it was more milky than any that he had seen at this time in the evening. He also prepared and exhibited a number of specimens of the blood, and showed the living filaria under the microscope.

Dr. John S. Ely presented specimens of

TRAUMATIC RUPTURE OF THE STOMACH AND SPLEEN.

Rupture of some one or more of the abdominal viscera is a comparatively frequent result of severe injury. The solid organs more often suffer, though the intestine is not infrequently the site of more or less extensive laceration. Rupture of the stomach is, however, of considerable rarity, and on this account it has seemed advisable to record the following case.

The patient, a girl about five years of age, is said to have been in perfect health prior to a fall from a fourth-story window of a tenement house at about 3.15 P.M. on August 29, 1890. In the fall she struck the fire-escape, and a woman who was standing near broke its force somewhat by an attempt to catch the child. When brought to the hospital, a few moments later, she was conscious, but was suffering from severe shock. Slight hemorrhage from the right ear gave rise to a suspicion of fracture of the base of the skull. She vomited food, but no blood. Soon evidence of abdominal hemorrhage became unmistakable, the abdomen being distended, and yielding physical signs of fluid associated with a more profound collapse, rapid and feeble pulse, and gasping respiration. Stimulants were freely administered both by rectum and hypodermically, but she rapidly lost strength, and died about nine o'clock, five hours and three quarters after the accident.

The autopsy was performed on the afternoon of the next day, eighteen hours after death, and the following notes were taken at the time: Well nourished body of a girl about five years old. Slight bruise on the right side of the forehead. Abdomen much distended and of a greenish color, deeper in spots which resemble severe contusion. No evidence of any fracture.

The peritoneal cavity contains considerable gas, and about a litre of dark brown liquid in which there are bits of partially digested food. The liquid has an acid, disagreeable odor, resembling that of gastric juice. Examination of the stomach discloses a large rupture along the greater curvature of the cardia. The opening is about three inches long. On the anterior surface of the stomach near the greater curvature, is another rupture, but extending in this instance through the muscular layers of the stomach wall only. It is about one and a half inch in length. Near the pylorus on the posterior surface is another, smaller rupture of the peritoneal and muscular coats, with considerable ecchymosis into the surrounding tissue of the stomach. The stomach is empty. No other lesion of the alimentary tract is discoverable.

The spleen is somewhat large and soft. On its internal surface near the lower extremity is a rupture triangular in shape and about an inch in diameter.

The liver is somewhat small and is remarkably bloodless. No other lesion is discovered in it.

The kidneys are both of about normal size and shape. In the perinephritic fat, especially on the left side, there is considerable extravasated blood. The capsules of the kidneys are non-adherent, and there is no evidence of disease of the organs, though in places on the surface, the stars appear very prominent, suggesting congestion there.

The uterus and its appendages, and the bladder are in normal position, and appear to have been uninjured by the fall. The diaphragm has the normal attachment, no rupture.

The heart is normal. At the base of the left lung, on its diaphragmatic surface, are several small extravasations of blood varying in size up to a quarter of an inch in diameter, sub-pleural. There is no rupture of the visceral pleura. Lungs are normal.

Thymus gland persistent, about two inches long, one and a half inches broad.

Skull : No fracture or injury apparent over calvarium. After removal of brain and dura, careful search fails to reveal any sign of fracture of the base. Brain and membranes are normal.*

A case strikingly similar to that here presented, was reported in 1870 by Buist.† A man fell from a railway trestle to the ground, about twenty feet, his left shoulder striking upon a piece of timber in the fall. He "fainted," but soon rallied, was taken home, and was then able to sit up and converse rationally, his chief complaint being "soreness in limbs and a fulness about the stomach." At 1 A.M. he was found dead in bed, having vomited a small amount of blood. The autopsy revealed about two quarts of liquid blood in the peritoneal cavity, and beginning peritonitis. There was a rupture on the posterior surface of the stomach at the pyloric extremity, about five inches in length, extending into the duodenum. "A large clot of solid fibrin filled the rupture." The spleen had a rupture about two inches in length, and half an inch in depth. "All other organs were intact and normal." He had not eaten for several hours and nothing like undigested food was found in the abdominal cavity. He lived about fourteen hours after the receipt of the injury.

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* The stomach and spleen from this case are preserved in the Museum of the College of Physicians and Surgeons, Nos. 1470 and 1471.

† Buist, I. Somers : "Rupture of the Stomach and Spleen from a Fall, without External Evidences of Injury," *Am. Jour. Med. Sci.*, Oct., 1870.

It is universally admitted, I believe, that the greater frequency of rupture of the solid viscera in severe abdominal contusions depends upon: 1st, their greater density; 2d, their proximity to the bony framework of the body; and 3d, their greater fixity. It is easy to understand why a large dense organ like the liver, lying just beneath the ribs, and against the spine, and constrained in this position by the diaphragm, by ligaments and by large vessels, should so frequently suffer. In the case of the hollow viscera, however, the problem is not quite so simple, and two theories have been proposed to account for their rupture. The first maintains that the rupture is the result of sudden increase of internal pressure in the viscus—is, in fact, a bursting of the organ. The second denies this, and holds that the injury is a laceration precisely like that observed in the solid viscera.

Without entering upon any discussion of the comparative merits of these theories,* I desire to state that a number of considerations lead me to the belief that the injury to the stomach in the two cases here presented, was a laceration, and not a burst. In the first place, the stomach in Buist's case, was empty. It is distinctly stated that the man had eaten nothing for some time previous to the accident, and that nothing of the nature of stomach contents could be found in the abdominal cavity. In my own case, the stomach could not have been very full, for the accident occurred at 3.15 P.M., probably at least two hours after the completion of the noonday meal.

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* This question has been ably treated as regards the intestine, in a paper by B. Farquhar Curtis: "Contusion of the Abdomen, with Rupture of the Intestine" (*Am. Jour. Med. Sci.*, Oct., 1887), in which the following conclusions, among others, were arrived at as the result of many experiments:

"1. In contusion of the abdomen, the intestine is ruptured by being crushed between the contusing body and the bony parts—the vertebræ and pelvis. The injury is therefore not a true *rupture*, but a *contused* and lacerated wound of the gut.

"2. Partial distension of the gut, especially if a large part of the intestine is distended, diminishes the danger of rupture. If great distension of an isolated loop ever occurred in life, it would increase the danger of rupture, even for a loop not in contact with bony parts.

"3. The most exposed position for the gut is in contact with the bony parts—in front of the vertebræ, near the brim of the pelvis (when hernia is present,) and near the crest of the ileum."

The location of the tears, too, is not that which would be expected had the stomach burst. Experiments by Revilliod * and Key-Aberg,† suggested by the observation of cases of bursting of the stomach, (in Revilliod's case as the result of accumulation of gas in a dilated stomach ; in Key-Aberg's, by forcible lavage during the treatment of opium poisoning,) developed the fact that the injury in bursting was a slit-like tear along the lesser curvature, and parallel to it, both observers agreeing that this is the weakest portion of the stomach wall. In the cases here discussed, of four tears, none had this situation. Furthermore, in my own case, the largest tear was along the attachment of the gastro-splenic ligament, and very close to the rupture in the spleen, which must be considered a lacerated wound.

The association, in both cases, of the rupture of the stomach with lacerations of solid organs indicates an amount of compression of the abdominal viscera against some solid structure, probably the spinal column, sufficient to have caused laceration of the stomach.

Finally, the great rarity of rupture of the stomach as the result of contusion argues to me distinctly in favor of the laceration theory of these injuries, for the internal pressure of the stomach must be greatly increased in many cases where the point of contact of the contusing force is below the epigastrium, and still in these cases, while rupture of the intestines is frequent, the stomach escapes uninjured. In the present cases, the escape of all other portions of the alimentary tract is suggestive in this connection.

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* Revilliod : "Rupture de l'estomac," *Revue Méd. de la Suisse Romandes*, 1885, No. 1.

† Key-Aberg, A. : "Till laran om den spontana magrupturen," *Nordiskt Medicin. Archiv.*, xxii., 1890, No. 10 ; *Virchow-Hirsch Jahresbericht*, 1890, i., 490.

TRICHINOSIS.

Dr. R. G. Freeman presented microscopical specimens showing the trichinæ free in the muscular tissue. The patient from whom the specimen was removed had presented the usual symptoms of trichinosis for about three weeks before death.

Dr. H. P. Loomis presented

A MICROSCOPICAL SPECIMEN SHOWING THE TRICHINÆ ENCYSTED,

and also a portion of muscle illustrating the gross appearances found in trichinosis. In this case the disease had not been diagnosticated during life, and the specimens were taken from a subject in the dissecting-room. The muscle showed admirably the numerous fine points scattered through it, looking like fly-blow. The trichinæ were found in every muscle of the body, but they were not so plentiful in the lower extremities as in the diaphragm and the posterior muscles of the chest.

Stated Meeting, December 23, 1891.

Dr. H. P. Loomis, Vice-President, in the Chair.

Dr. George C. Freeborn presented a specimen showing

CARCINOMA AND FIBROMATA IN THE SAME UTERUS.

The uterus was removed by suprapubic hysterectomy by Dr. Clement Cleveland at the New York Cancer Hospital on June 15, 1891, the cervical portion being dissected away after the removal of the body of the uterus. The patient was a married woman, fifty years of age, who had had no children, and who gave no history bearing on this condition, except that one year before, there had been a severe uterine hemorrhage, and about this time, she first noticed an enlargement of the abdomen. The mass weighed 2200 grammes, the circumference at the base was 51 ctm., and its height 19 ctm. The organ was cut through transversely, and showed, on examination, a large cavity in the body of the uterus, surrounded by six myo-fibromata. The cavity contained only necrotic material, chiefly broken down smooth muscle fibres. The other half of the specimen showed a large fibroid of the fundus of the uterus, and breaking through the capsule of the fibroid, was a large fibromatous mass which protruded into the cavity. Microscopical examination showed that the whole length of the cervix was occupied by a medullary carcinoma, which had invaded the whole mucous membrane of the lower third of the cavity of the uterus, and had encroached upon the muscular tissue, so as to leave only a thin shell of this tissue externally.

Dr. R. H. Sayre presented specimens of

TUBERCULOSIS OF THE LUMBAR VERTEBRÆ.

The specimens consisted of three lumbar vertebræ removed from a child, four years of age, who had died of general tuberculosis. When in the fresh state, the specimens showed beautifully the early stage of bone tuberculosis, the second lumbar being chiefly involved. At one point, the process was just attacking the intervertebral cartilage. He also exhibited the left kidney, which was quite large, and its pelvis greatly dilated.

The child was first seen on September 2d, and it was stated that six weeks before this, the first symptoms were developed, viz.: pain in the head and along the spine, and inability to bend the spine. The family physician suspecting disease of the spine, called an orthopedic surgeon in consultation, but as the latter considered the case one of malaria, treatment for this affection was begun. Not being benefited by this, the case was brought to Dr. Sayre, who diagnosticated tuberculosis of the spine, and possibly also of one hip. The child at this time was very anæmic, but presented no symptoms except those referable to the spine. There was no abdominal tumor to be felt, and nothing was discovered to account for the contraction of the right hip, except the psoas contraction associated with vertebral inflammation. After about six weeks there was a sudden elevation of the temperature to 104°, accompanied by photophobia, vomiting, and rigidity of the back of the neck, and, at the same time, an abdominal tumor was discovered a little to the left and above the umbilicus, which felt hard but resilient. The child was given bichloride of mercury for about two weeks. After about three days the meningeal symptoms disappeared. The tumor, however, steadily increased in size, and an examination under chloroform, showed it to be freely movable. It was decided that the disease was too extensive to warrant an operation. Death occurred on December 12th. The autopsy showed an enormous mass of glands matting together the upper portion of the intestines, connecting them to the diaphragm and stomach. No small miliary tubercles were observed. There was slight jaundice shortly before death, and this was accounted for by a small band which was found pressing on the gall-bladder. The liver and kidneys were enlarged. There was a large quantity of fluid in both pleural cavities, and one or two nodules were found in the apices of the lungs. Although the first symptoms were referable to the spine, this was found apparently much less involved than the other parts of the body. There had been no kyphosis, simply a lack of the normal hollowing in the lumbar region. Permission could not be obtained to examine the brain and spinal cord, and this was particularly unfortunate in view of the remarkable disappearance of the meningeal symptoms. When the specimen was shown before the Orthopedic Section of the Academy of Medicine, Dr. John Ridlon called attention to the prevailing belief that cases of meningitis which recover were not tubercular, and cited a case in his own practice, which had been seen repeatedly by a number of eminent physicians, who agreed in the diagnosis of tubercular meningitis, and yet, the boy had recovered, and was still alive.

Dr. T. M. Prudden presented a specimen of

TRICOCEPHALUS DISPAR.

He was indebted to Dr. Brockway for the specimen which he had removed from a subject in the dissecting-room, upon whom an autopsy had already been made. On this account, the existence of similar worms in the bowel could not be determined. Appearing through the skin on the mons veneris was a reddish elevation, which was at first supposed to be a varicose vein, but which proved to be a filiform worm. Further examination showed it to be the tricocephalus dispar, one of the nematoid worms, in the same family as the trichinæ. It is the so-called "whip-worm." Several worms were also found embedded in the muscles of one leg.

Dr. Prudden said that in his experience it was not at all common to meet with this worm, and it was exceedingly rare to find it outside of the alimentary canal. It was usually found with the head embedded in the cæcum. These worms are quite common in Europe; in Paris they are said to be found in about fifty per cent. of the cases examined. Although in this country the bowel is not always examined throughout its entire extent, it is customary to open the cæcum, and hence, such worms could hardly be overlooked.

A number of the members stated that they had never met with this worm even in the bowel.

Dr. A. T. Weston presented a specimen of

PERFORATING ULCER OF THE DUODENUM.

The patient from whom the specimen had been removed, was a truckman, fifty years of age, who, three days before his admission to Bellevue Hospital, had complained of abdominal pain, but this had not been severe enough to keep him from his work. On the day of his admission, the pain had suddenly become very severe. The upper part of the abdomen was retracted, the lower part distended. He died eighteen hours after admission. The autopsy showed a perforating ulcer of the duodenum, situated just beyond the pyloric valve. There was a slight exudation, showing the beginning of a peritonitis. The abdominal cavity contained a large quantity of brownish fluid having the odor and appearance of stomach contents. The lungs exhibited the lesions of healed phthisis ; the heart was normal ; the kidneys were the seat of a chronic diffuse nephritis.

Dr. H. P. Loomis said that he had presented a similar specimen to the Society some time ago, and had taken occasion at that time to review the literature of the subject. He had found that these ulcers were usually situated three or four inches lower down than in the specimen just presented, and usually at the lesser curvature.

Anniversary Meeting, January 13, 1892.

Dr. H. P. Loomis, Vice-President, in the Chair.

Dr. George C. Freeborn presented specimens illustrating the use of

A NEW MATERIAL FOR MODELS.

The mass used in making the models is a mixture of glue and glycerin or gelatin and glycerin, the former combination being used for economy's sake when an opaque, and the latter when a transparent, model is wanted. The proportions of the ingredients vary according as a more or less flexible mass is wanted. A mixture of equal parts of glue or gelatin and glycerin, by weight, makes a firm, fairly flexible mass. By increasing the quantity of glycerin to two or three parts, a less firm but more flexible mass is obtained. In my experience the most useful proportions are one of glue or gelatin to two of glycerin.

In making the mass, the glue or gelatin is soaked in water until it has become soft; then all the surplus water is drained away and the soft mass added to the glycerin, which has been heated on a water-bath. When the glue or gelatin has become melted, the thick tenacious mixture is strained through cheese-cloth, and again heated on a water-bath for at least an hour to drive off the water. If this is not done the evaporation of the water from the model after casting causes considerable shrinkage.

Any desired color may be given the mass by the use of the anilin dyes. A concentrated aqueous solution of the anilin is added to the mass while melted and thoroughly stirred in, care being taken not to add an excess of dye or it will cause staining of the hands upon handling the finished model.

Making the Model.—I have found paraffin the most useful material for making the model from which the plaster mould is constructed. Other materials, such as wood or clay, may be used, but paraffin, on account of the ease in which it can be melted out of the mould without damaging it, is to be preferred. The paraffin is cast in a block or slab. To cast a block a frame of wood of the required dimensions is made and placed on a smooth level surface—a glass-plate—and filled with paraffin melted at as low a temperature as possible. When cold, the wooden frame is removed, and the block of paraffin is ready for shaping into the model. For casting slabs, tin trays of the desired size and depth are used, they being filled with melted paraffin. The outline of the model to be made is drawn on thick paper and cut out with a sharp knife. This outline is then placed on the slab of paraffin as soon as it has become solid, but is still plastic; then with a thin, narrow knife-blade follow around the edges of the paper outline, carrying the point of the knife down through the paraffin to the bottom of the tray. This removes the surplus paraffin, which can be pulled out of the tray, leaving the model behind. This is allowed to become perfectly hard, when it is removed from the tray. Blocks of paraffin may be put on a lathe and turned up into shape in cases where cylinders are wanted.

The outline model in paraffin is now brought roughly into shape by cutting away superfluous parts with a knife; then worked up to a nearer state of perfection by scraping with bits of glass or a knife, and finally perfectly finished by rubbing with bits of cloth moistened with turpentine.

The model is always to be made in two halves, a mould being made of each half.

Making the Mould.—The model is placed on a well oiled smooth surface, plane surface downward, and a frame of wood built around it. Plaster-of-Paris mixed with water to the consistency of thick cream is poured into this frame until the highest point of the model is covered to the depth of at least an inch. After the plaster has set, the frame is removed and the mould stood up in a tray. The model is now melted out of the mould by allowing the flame of a Bunsen's burner to play against it. The mould is then given three coats of shellac varnish, allowing each coat to become thoroughly dry before applying a second.

Casting the Model.—Both halves of the mould are placed in absolute level position, and the surface and depressions well oiled. Each half is now filled with the melted mass until it projects slightly above the surface of the mould. The mass should be poured at as low a temperature as possible, the higher the temperature the greater will be the contraction of the model upon cooling. When perfectly cold the two halves of the model are to be joined. This is done as follows : remove one half of the model from its mould ; then paint the surface of the other half still in its mould with some of the modeling mass at a fairly high temperature ; then place the other half on it, carefully adjusting its edges to those of the half contained in the mould. After two to three hours remove the completed model from the mould ; cut away all rough spots along the line of junction, and finally finish smoothly by painting with a brush wet with boiling water.

All finished models should be kept in their moulds ; if placed on a level surface distortion will occur.

To illustrate what can be done with this mass, I present the following models of some histological elements :

Smooth Muscle Cell.—In this model the form of the cell is very well demonstrated as well as its flexibility and elasticity.

Red Blood-Cell.—This model has been made to a scale, and shows a red blood-cell about 15,000 times the size of a normal human cell. The physical properties are also well shown.

Crenated Red Blood-Cell.—This model shows fairly well the protrusions from the surface of the altered red cell

The remaining models, a *surface cell from the bladder*, a *nerve* *cell from the spinal cord*, a *nerve cell from the cerebellum*, and a *red blood-cell of the frog*, illustrate what is possible with this mass.

This mass is likely to prove useful in making casts of irregular cavities and surfaces, as it can, on account of its flexibility, be easily removed without damaging the object, when a plaster cast would either break the object or be broken itself on attempting to remove it. To illustrate this point, I present a cast of the interior of the base of a human skull.

The mass may also prove useful in making models of organs. It is my intention to experiment in this line, and I will report my results at some future meeting of the Society.

ABNORMAL ORIGIN OF THE CORONARY ARTERY.

Dr. Warren Coleman presented two specimens of this condition. In one it was located one half inch, and in the other one fourth of an inch, above the free margin of the semilunar valve when pressed back against the vessel.

With regard to the coronary circulation, it had long been held that the semilunar valves were pressed back during systole against the orifice of the coronary artery, thus preventing the entrance of the blood into this artery ; while during diastole, as a result of the elastic recoil of the aorta and the reflux of the blood, the valves were forced into position. This has usually been accepted as the explanation of the mechanism of the coronary circulation, but it was manifest from the specimens just presented, that in these cases the coronary arteries must have become filled, like the systemic arteries, during the systole of the heart. In this connection it is interesting to recall some experiments made a few years ago by Dr. Newell Martin of the Johns Hopkins University. By means of specially devised apparatus, and the use of defibrinated blood, or normal salt solution, circulating through a mammalian heart after its removal from the animal, he had been able to prove that the systemic pulse and the coronary pulse were synchronous. Even when the coronary valves were hooked back so as to destroy their action, this synchronism was not affected. Again, it is to be remembered that in aortic stenosis, although the valves are not thrown back, the coronary circulation is fairly well maintained.

Dr. H. P. Loomis remarked that if records were kept of all these cases, he thought it would be found that this situation of the coronary arteries was not uncommon.

CARCINOMA OF UTERUS; OCCLUSION OF THE RIGHT URETER; CYSTIC DEGENERATION OF THE LEFT KIDNEY.

Dr. Coleman also presented a specimen of carcinoma of the uterus which had just been removed from a patient in the New York Cancer Hospital. The posterior wall of the bladder had become adherent to the uterus in such a way as to occlude the lower part of the right ureter, and, as a result, this ureter and the pelvis of the right kidney were greatly dilated. The left kidney had been converted into a large cyst, and yet, strangely enough, the excretion of urine, which had been quite abundant during life, must have been carried on by the remains of this kidney, as the function of the other had been entirely destroyed.

VARIOUS CONGENITAL MALFORMATIONS.

Dr. J. S. Thacher presented the body of an infant eleven days old, which exhibited the following malformations: A large spina bifida; a double talipes equino-varus; an absence of the thumb on one hand, and apparently of the radius on this side; and a blending together of the two kidneys into one, with a single ureter, and a single opening into the bladder. The child had been in the Presbyterian Hospital, and had seemed well up to a few hours before death, when it refused food and failed rapidly. As no history was obtainable, he was unable to say whether or not this large spina bifida had presented any special obstacle to delivery. On dissecting this tumor its walls were found to consist of skin and subcutaneous tissue, and the expansions of the dura and pia mater, which were all blended together, except near the pedicle, where there was some separation of the dura and pia. The fluid contained in the meningocele amounted to 560 cc. Nothing resembling the cauda equina was found, but the nerve fibres appeared to be spread out upon the walls of the sac.

Dr. J. M. Byron presented a

PHOTOMICROGRAPH OF THE FILARIA SANGUINIS HOMINIS.

The photograph of the filaria was taken instantaneously, and was an excellent reproduction of one of the specimens recently presented to the Society. Also a second

PHOTOMICROGRAPH OF AN UNDESCRIBED COLONY OF BACTERIA.

The colony represented in the second photograph was remarkable in consisting of a number of mathematically perfect concentric circles, presenting five or six different colors. Nothing more had been learned as yet of the characteristics of the undescribed bacillus which forms this peculiar colony, than that it was a bipolar bacillus of very small dimensions.

Dr. R. G. Freeman presented gross and microscopical specimens of

GANGLIONIC NEUROMA OF THE SUPRARENAL CAPSULES.

It was removed from a little girl, five years old, who had suddenly died after an operation on the hip-joint. At the autopsy the lungs showed a beginning broncho-pneumonia, considerable anthracosis, and one bronchial gland, which was cheesy and calcareous. The tumor, which was hard and round, and measured two ctm. in diameter, was situated in the left suprarenal capsule. Microscopical examination showed it to be a spindle-cell sarcoma, containing many large cells corresponding in appearance to ganglionic cells. These cells contained fairly large nuclei, and one or more well defined nucleoli.

Dr. L. Emmett Holt presented specimens from

A CASE OF GENERAL TUBERCULOSIS; DEATH FROM ACUTE PNEUMONIA.

A female child, three and a half years old, with tuberculous antecedents, who had suffered for one year before death from tubercular glands in the neck. In the summer of 1891 she had an ordinary attack of entero-colitis, after which she remained delicate, moderately emaciated, and generally in a wretched condition.

An examination of the chest in the middle of September showed only coarse scattered râles. Occasional attacks of intestinal symptoms occurred during the fall, but no blood appeared in the stools. During October there was considerable improvement in the general condition, and she gained in weight. During November, however, she failed visibly, and became exceedingly irritable, peevish if disturbed, but dull and apathetic if left to herself. There was quite marked photophobia; in fact, with her previous history, it seemed very probable that tubercular meningitis might be developing.

The record of the temperature was kept, but no rise occurred until near the end of November; it then ranged between 100° and 103° continuously for one month.

A few more râles were found in the chest, but no increase in the nervous symptoms.

Eleven days before death the temperature suddenly rose to 104°, and during the remainder of the disease fluctuated somewhat irregularly between 101° and 10.45°. With this high temperature there was an increase in all the pulmonary symptoms, cough, prostration, dyspnœa, and so forth. Signs of complete consolidation of left lower lobe soon appeared, and a little later similar signs over the right base behind. She sank steadily, and died of exhaustion.

Autopsy.—Brain: At the anterior the brain was found perfectly healthy. *Bronchial Lymph Nodes:* These were greatly enlarged, especially the right side, forming quite a mass about the right bronchus, about one and a half inch in diameter by three fourths of an inch thick; the nodes were cheesy upon section, but not suppurating. *Lungs:* In the right upper lobe there were scattered nodules of tubercular pneumonia, varying in size from one eighth of an inch to half an inch; cheesy at the centre, the intervening pulmonary tissue being quite healthy.

At the anterior border of the right middle lobe the oldest process was seen; this was consolidated, showing upon section fibrous tissue, surrounded by old cheesy masses. This part of the lung was adherent to the pericardium.

The lower left lobe was uniformly consolidated, of a reddish-brown color, with a thin layer of recent lymph upon its surface.

In the upper lobe of the left lung a circumscribed nodule of pneumonia, about one and a half inch in diameter, brownish-red in color; on section, the rest of the lobe healthy. The lower lobe uniformly consolidated, of a grayish-red color, slightly mottled, and a very slight amount of pleurisy on the surface.

The microscopical examination of the lungs showed a process having some of the characters both of a lobar pneumonia and of a broncho-pneumonia, but not quite those of either—it was upon the border line. The amount of fibrin in the alveolar exudate was small, and the number of pus cells and epithelial cells very great.

The spleen, liver, and kidneys showed no essential changes.

The small intestine was healthy throughout. The colon showed about a dozen old ulcers, chiefly in the rectum and descending colon, the largest ones being over an inch in diameter.

The mesenteric lymph nodes were all enlarged and cheesy.

Dr. Holt also presented specimens from a case of

PLEURO-PNEUMONIA, EMPYEMA ; OPERATION ; DEATH.

A female child two years old was taken with symptoms of influenza, which rapidly developed into pneumonia, on the fourth day signs of consolidation being found at the right base behind. The temperature ranged between 101° and 104° for ten days ; it then fell nearly to normal, but there was no improvement in the general symptoms. Examination of the chest showed at this time exaggerated breathing on the left side, and over the whole right chest there was dulness, almost flatness, excepting at the extreme apex in front, which was tympanitic.

There was distinct bronchial breathing everywhere, but no râles, although two days before râles had been numerous.

The heart was displaced to the left, beyond the nipple line, and an exploratory puncture showed pus.

Two days after the chest was incised in the eighth intercostal space, at the posterior axillary line, and half a pint of pus evacuated, and drainage-tube inserted.

For three days after the operation the child did well, the temperature remaining below 101° ; it then rose rapidly to 104° and fluctuated between 103° and 105° for five days, at the end of which time the child died on the twenty-first day of the illness.

Autopsy.—Lungs : All the organs were essentially normal excepting the lungs.

Over the right side of the chest there were recent adhesions at the apex anteriorly to the pericardium and to the diaphragm ; posteriorly the lung was not adherent, there being quite a large quantity of pus in the pleural cavity.

The right lung was covered everywhere with a thick layer of yellowish-green fibrin. The lung was moderately compressed, but nearly as large as the left one.

On section the lung was consolidated everywhere excepting along the anterior border.

The left lung showed recent fibrin over the lower lobe, which was about three fourths solidified, elsewhere slightly emphysematous.

On section typical broncho-pneumonia.

The bronchial lymph nodes were enlarged, but not cheesy.

The cause of death in this case seems to have been the development of the disease in the left lung, which was apparently coincident with the rise of the temperature three days before death.

The rapidity with which the formation of pus took place in the chest was also very striking.

A bacteriological examination was made from the pus drawn from the chest at the exploratory puncture and pure cultures of the pneumococcus obtained.

Dr. Ira Van Gieson presented microscopical specimens of a case of

TRAUMATIC MYELITIS IN THE LOWER DORSAL REGION, WITH A CENTRAL COLUMN OF NECROSIS EXTENDING ABOVE THE LESION, THROUGHOUT THE WHOLE DORSAL AND LOWER CERVICAL REGIONS.

The *clinical history* is very defective. A middle-aged robust man was brought into St. Catherine's Hospital, Brooklyn, Feb. 15, 1886, after having been injured by an ice-cart. The man fell from the driver's seat and struck his back against the hub of the wheel and finally fell to the ground ; whether he was still further injured by the starting forward of the wagon, is intimated but not definitely stated in the records. After this he began to develop a very severe form of total paraplegia. There was complete abolition of motion and sensation below the hips, together with paralysis of the sphincters. Bed-sores and trophic ulcers appeared and became larger and more numerous as the disease went on, and in the latter stages of the illness nearly the whole surface of the back was occupied by two large bed-sores. The glans penis and prepuce were ulcerated ; the calves were so deeply ulcerated that the muscles were exposed. The man lived for two months and a half after the injury.

Although the case is entered in the hospital records as one of compression myelitis, the clinical records and autopsy notes say nothing about any fracture or depressions of the spine or laminæ of the vertebræ or dislocation of the vertebral bodies, so it is very likely that the man had an ordinary acute transverse myelitis of traumatic origin.

The Autopsy showed nothing noteworthy about the organs. The spinal cord, at the ninth and tenth and the upper portion of the eleventh dorsal segments, was greatly diminished in volume and very much flattened. It was reduced to a mere fibrous band, not much thicker than a piece of tape. This flattened portion of the cord was but from 1–2 mm. in thickness, and from 4–6 mm. in breadth.

The lumbar and sacral portions of the cord below the flattened region were also much reduced in volume, had a dark yellowish-green color, and were so soft that the substance of the cord seemed like thick fluid suspended within the cord membranes like a bag. The anterior roots of the cauda equina were smaller than usual, and along their lines of exit from the cord were small yellow streaks and patches, which subsequent examination showed to be necrotic portions of the nerve roots. The blood-vessels on the surface of the cord below the flattened place did not show well, while above nothing unusual was noted about them.

Transverse incisions of the cord above the flattened segments show a centrally situated yellowish-white column of softening, which extends throughout the whole dorsal region, and terminates in the lower portion of the eighth cervical segment (Plate 1). In the greater part of its extent this column was so soft that the handling of the fresh cord caused it to flow out like thick pus, leaving a sharply circumscribed hole in the cord. With the exception of this long slender softened column, and the columns of ascending degenerations, the cord above the flattened place was perfectly normal.

Microscopical Examination.—The cord was hardened in 70 parts of Müller's fluid and 30 parts of alcohol for two weeks, and afterwards in Müller's fluid in the usual way. In the flattened portion and for some distance below the tissues of the cord are completely degenerated. The lumbar and sacral cords are also thoroughly softened and œdematous. Many of the blood-vessels are obliterated and others have thickened walls.

Just above the flattened portion several streaks or columns of softening extend upward into the ninth and lower portion of the eighth dorsal segments (Plate 1.) These are shown in the white matter of the lateral and posterior columns in the transections D VIII. and D IX. These streaks of softening extend for a short distance only, except the central column, which persists throughout the whole dorsal region, and its position is indicated

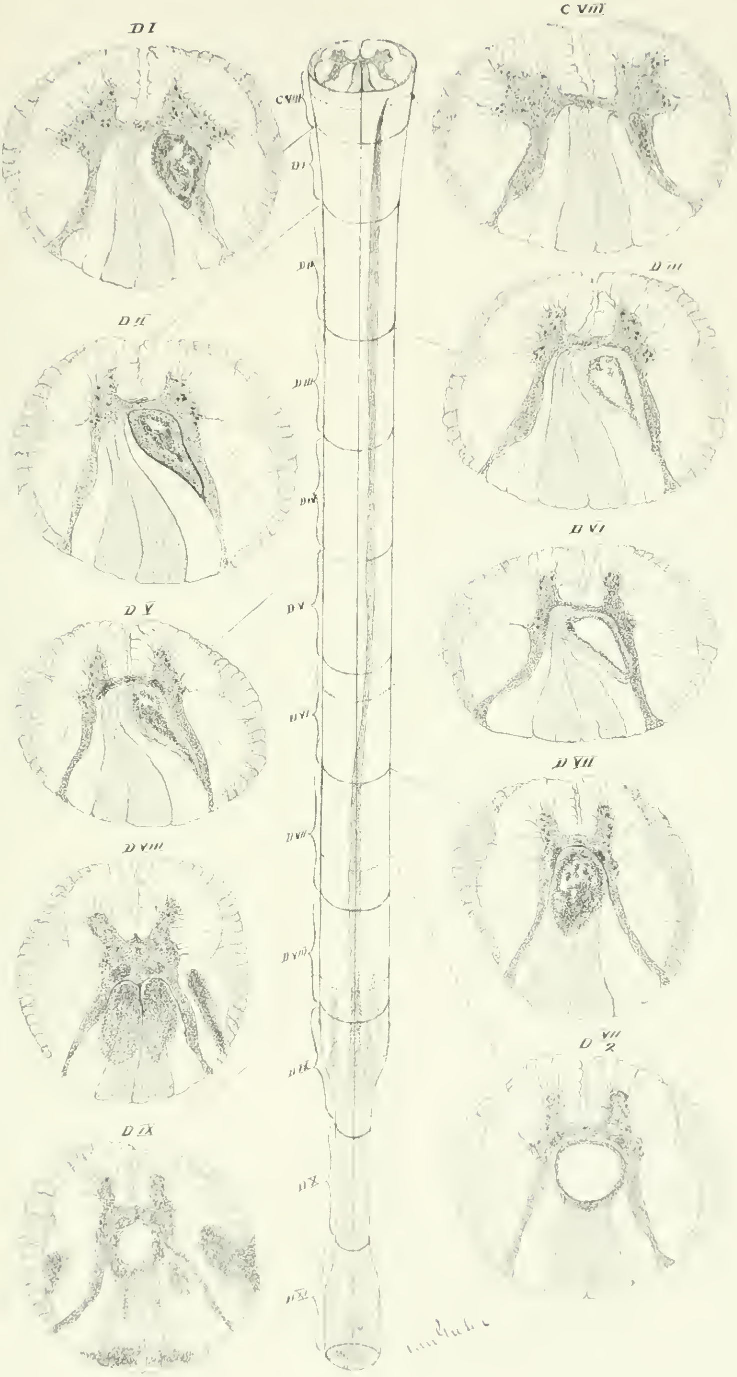
D I
C VIII
CVIII
D I
D II
D III
D II
D III
D IV
D VI
D V
D V
D VI
D VII
D VII
D VIII
D VIII
D IX
D VII 2
D X
D IX
D XI

PLATE I.

by the long narrow shaded band in the vertical drawing of the cord in Plate 1.

In the transection D IX. the contents of the softened column have flowed out in handling the fresh cord, so that the section shows a hole just back of the gray commissure, with softened edges. The same thing has happened in the transections $D\frac{VII.}{2}$ and D VI. In the transection D VIII. the central column is not completely softened and converted into detritus as in the rest of its extent ; there are two rather diffuse spots of softening lying either side of the posterior septum, which involve the apices of the columns of Goll and Burdach. In these areas, the transections of the nerve fibres can be seen, and, although much widened, the fibres are not completely destroyed as in the remaining portions of the necrotic column.

In the section D VII. the two central spots of softening in D VIII. are united and form a cavity filled up with granular detritus and Gluge's corpuscles. Just above this section the necrotic column changes its position from the centre of the cord and passes out of the apex of the column of Goll, over toward the right side, and occupies the apex of the column of Burdach, crowds against the base of the posterior horn, and in places destroys the right column of Clarke. Finally as it passes upward the necrotic column becomes entirely situated in the gray matter of the neck and base of the posterior horn (D I. and C VIII., Plate 1).

The drawing shows the distribution and character of the column well enough to dispense with any further detailed description of it. The column has the same structure throughout, it is composed of granular material, has a sharply circumscribed border of more or less softened matter. In places the column has the appearance of a cavity due to the abstraction of fluids in the hardening process, or to the escape of the softened material from manipulation.

The rest of the tissues of the cord surrounding the necrotic column are perfectly normal ; there are no signs of inflammation about the column, and no bacteria could be found in sections by the several staining methods. It is not easy to explain the occurrence of this long slender necrotic column extending for such a distance in the normal cord ; it does not follow the track of any set of blood-vessels, and, although some of the sections at first glance look like syringo myelia, the cavity is not lined by a neurogliar zone or any other distinct lining membrane.

Under the name of Perforating Necrosis of the cord, Dana describes the only other case that I know of, like this one (Acute Transverse Myelitis with perforating necrosis of the whole dorsal cord, ascending and descending degenerations.—*The Alienist and Neurologist*, April, 1889).

Dana's case was a woman, aged thirty, who was so suddenly seized with paraplegia in the upper dorsal region as to lead to the suspicion of hemorrhage into the cord. The woman lived for four months, with the symptoms of an ordinary transverse myelitis, with the addition of a very high and continuous fever. At the autopsy there were no important changes except in the spinal cord, which showed considerable chronic pachymeningitis in the dorsal and lower cervical regions. The third and fourth dorsal segments of the cord were destroyed by the myelitic process and reduced to a mere fibrous band. The situation of the necrotic column in Dana's is almost exactly like that in our case, except that it extended below the lesion instead of above it. The necrotic column in Dana's case was also long, slender, and centrally situated. It extended throughout the whole dorsal region below the myelitic focus and ended at about the upper level of the first lumbar segment. In the fresh condition the necrotic column appeared as a sharply defined white mass looking like pus ; just below the myelitic focus it was large, occupying all of the central half of the posterior white columns ; lower down it became gradually smaller, lying just behind the gray commissure.

Microscopical examination of the necrotic column in Dana's case shows it to be quite identical in structure with the column described in this case. It was composed of granular detritus and fatty material ; there were no surrounding inflammatory changes, neither was the column limited by a pyogenic or other distinct lining membrane. Sections stained for tubercle bacilli failed to show them, so the necrotic process was not of tubercular origin.

Apparently in both of these cases the necrotic column is simply a circumscribed continuation of the softening and necrosis in the damaged segments of the cord, but it is certainly very unusual to find the necrosis extending in such a slender column for such a long distance in the otherwise perfectly normal cord above or below the lesion.

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INDEX.

Abdominal tumor, 24
Abscess, of the brain, following otitis media, 69
    perinephritic and subdiaphragmatic, following appendicitis, 71
Adenoma, of the lung, 24
    of the shoulder, 4
    papillary, of the abdominal cavity, 25
        of the kidney, 24
Anæmia, pernicious, in a child, 1
Aneurism of the basilar artery, 35
Angio-sarcoma, tubular, 21
Appendicitis with perinephritic and subdiaphragmatic abscesses, 71
Artery, coronary, abnormal origin of, 86
Atrophy of the brain, 39, 47
    of the optic thalmus, 12
    of the pyramidal tract, 12

Bacillus of tuberculosis, method of staining in tissues, 44
Bacteria in ear disease, 71
Basilar artery, aneurism of, 35
Bladder, colloid carcinoma of, 14
    opening of four ureters into, 65
    primary carcinoma of, 73
Brain, abscess of, following otitis media, 69
    atrophy of, 39, 47
    gunshot wound of, 48
    syphilis of, 43
    tuberculosis of, 42

Calculus pyelo-nephritis, 49
    renal, 38
Carcinoma, colloid, of the bladder, 14
        of the femoral region secondary to carcinoma of the rectum, 37
    of the pancreas, 21
    primary, of the bladder, 73
    of the uterus, occlusion of the ureter, 87
Centrifugal machine for collecting deposits for microscopical examination, 62
Cerebral hemorrhage, 9
Chemotaxis, 60
Chondro-myxo-sarcoma of the lip, 29
Chronic external hydrocephalus, 10
Cirrhosis of the liver, 9
Colloid carcinoma of the temporal region secondary to carcinoma of the rectum, 37
Coronary artery, abnormal origin of, 86
        obliteration of, 29
Crural hernia in a fœtus, 69
Cured phthisis, anatomical changes in, 33
Cystic duct, rupture of, 53
    kidney, 28

Diphtheritic endometritis, 45
Diverticulum of the œsophagus, 46
Duodenum, ulcer of, 17
    perforating ulcer of, 83.

Ear disease, bacteria in, 71
Echinococcus cyst of the liver, 47
Ectropic pregnancy, 18
Effects of dead tubercle bacilli on the body cells, 60
Endometritis, and chronic metritis, 50
    diphtheritic, 45
Epithelioma of the face, case of, treated with Koch's lymph, 8
External hydrocephalus, chronic, 10

Fallopian tube, tuberculosis of, 51
Fatty areas in the liver, 12
Filaria sanguinis hominis, 75
        photomicrograph of, 87
Fœtus, crural hernia in, 69

Gall-stone, impacted, 67
Gall-stones, frequency of, in old people, 68

Gangrene of the lower extremities, 16
  of the uterus, 45
General tuberculosis treated with Koch's lymph, 4
Giant-cell sarcoma of the knee-joint, 15
Gunshot wound of the brain, 48

Hemiplegia, infantile spastic, 30
Hemorrhage, cerebral, 9
Hernia, crural in a fœtus, 69
  omental, 28
Hydrocephalus, chronic external, 10

Impacted gall-stone, 67
Intestino-peritoneal septicæmia, 56
Intra-mural myo-fibroma, 19

Kidney, cystic, 28
  papillary adenoma of, 24
Knee-joint, giant-cell sarcoma of, 15
Koch's lymph, 4, 8, 26

Lenticular nucleus, softening of, 12
Liver, cirrhosis of, 9
  echinococcus cyst of, 47
  fatty areas in, 12
  sarcoma of, 21
Lung, adenoma of, 24
Lymph nodes, large cell hyperplasia of, 65

Malformations, congenital, 87
Method of rapidly staining bacillus of tuberculosis in tissues, 44
  of rendering thick sections of tissue transparent, 44
Middle cerebral artery, tumor of, 32
"Miners' phthisis," 52
Models, new material for, 83
Myelitis, traumatic, with necrosis of the cord, 91
Myo-fibroma, intra-mural, 19
  of the uterus, 8
Myxo-chondro-sarcoma of the leg, 55

Neuroma ganglionic, of the suprarenal capsule, 88.

Œsophagus, diverticulum of, 46
Omental hernia, 28
Optic thalamus, atrophy of, 12
Otitis media, followed by abscess of the brain, 69
Ovaries, tuberculosis of, 52

Pachymeningitis hæmorrhagica, 10
Pancreas, carcinoma of, 21
Papillary adenoma of the abdominal cavity, 25
  of the kidney, 24
Pelvic hæmatocele, rupture of, during delivery, 65
Perimetritis from necrosis of the uterus, 45
Pernicious anæmia in a child two years old, 1
Photomicrography, 56
Pleurisy, traumatic, 58
Pleuro-pneumonia, empyema, 90
Portal vein, thrombosis of, 9
Pregnancy, ectropic, 18
Prostate gland and seminal vesicles, tuberculosis of, 4
Pyramidal tract, atrophy of, 12

Renal calculus, 38.
Rupture, of the cystic duct, 53
  traumatic, of the stomach and spleen, 76
  of the uterus, 57
  of the vagina and uterus, 45

Sarcoma of the liver, 21
  chrondro-myxo-, of the lip, 29
  giant-cell, of the knee, 15
  myxo-chondro-, of the leg, 55
Seminal vesicles and prostate gland, tuberculosis of, 4
Septicæmia, intestino-peritoneal, 56
Softening of the lenticular nucleus, 12
Spastic hemiplegia, infantile, 30
Spinal cord, necrosis of, with traumatic myelitis, 91
Spleen, gumma of, 16
  and stomach, traumatic rupture of, 76
Stenosis of the mitral, aortic, and tricuspid valves, 63
Suprarenal capsules, ganglionic neuroma of, 88
Syphilis of the brain, 43

Thrombosis, of the left ventricle of the heart, 29
  of the portal vein, 9
  of the right ventricle of the heart, 29
Traumatic suppurative pleurisy, 58
Tricocephalus dispar, 82
Trichinæ, encysted, 80
Trichinosus, 80

Tubercle bacilli, effects of dead, on body cells, 60
Tuberculosis, of the brain, 42
    general, 88
    of the lumbar vertebræ, 81
    of the lung, peculiar distribution of the lesions of, 23
    of the prostate gland and seminal vesicles, 4
    treated with Koch's lymph, 4, 8, 26
    of the ovaries and tubes, 51
Tubular angio-sarcoma, 21
Tumor of the right middle cerebral artery, 32

Ulcer, of the duodenum, 17
    perforating, of the duodenum, 83
Ureter, occlusion of, 87
Uterus, carcinoma and fibroma of, 80
    carcinoma of, and occlusion of the ureter, 87
    gangrene of, 45
    myo-fibroma of, 8
    necrosis of, 45
    rupture of, 45, 57

Vagina, rupture of, 45
Vermiform appendix, ulceration of, with perforation, 74

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